



Setting the Standards for Innovative
Environmental Solutions

July 3, 1997

Mr. Jeff Mazzoccoli
DuPont Environmental Remediation Services
Barley Mill Plaza, Bldg 27
P.O. Box 80027
Routes 141 & 48
Wilmington, DE 19805

Dear Mr. Mazzoccoli:

Enclosed is the quality assurance (QA) review for the volatile organic analysis data for the quarterly water samples collected May 5, 6, and 7, 1997, as part of the DuPont Experimental Station project. The samples were grouped by the laboratory into sample delivery group (SDG) DPE01.

Overall, the data quality appears to be very good. It should be noted that some results were qualified due to quality control (QC) results and calibration issues. The actual quantitation limits for 1,1,1-trichloroethane in several samples were qualified due to a high percent drift (>25%) in the direction of decreasing instrument sensitivity for the compound in the continuing calibration analysis associated with the samples. In addition, the "not-detected" results for 2-chloroethyl vinyl ether in all samples in the SDG are qualified as unusable because of a very low matrix spike recovery (<30%). Similarly, all samples were preserved with hydrochloric acid and 2-chloroethyl vinyl ether is an acid labile compound.

If you have any questions/comments, please feel free to call.

Sincerely,

Donald J. Lancaster
Senior Quality Assurance Chemist II/
Project Manager

DJL:rl/jo

Enc.

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P.O. Box 911
Valley Forge, PA 19482-0911
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Davis, CA 95616
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cc: E. A. Rittberg, DNREC

DuPont Facilities Services

July 29, 1997

Ms. Donna McCartney (3HW61)
U.S. EPA, Region III
841 Chestnut St. Bldg.
Philadelphia, PA 19107
(4 copies)

Re: RCRA 3013 SAMR Order on Consent
DuPont Experimental Station, Wilmington, DE
EPA Docket #3-016-AM

Subject: SAMR - Data Validation Report

Dear Ms. McCartney:

Enclosed please find the Sampling, Analysis, Monitoring, and Reporting (SAMR) Plan Quality Assurance Review of the samples collected for the DuPont Experimental Station SDGDPE01, dated July 3, 1997.

Please call Rick Drazich at (302) 695-9303 if you have any questions.

Sincerely,

Rick B. Drazich

Rick B. Drazich
Project Coordinator

RBD:bas

Enclosure



Setting the Standards for Innovative
Environmental Solutions

**QUALITY ASSURANCE REVIEW
OF THE SAMPLES COLLECTED
FOR THE DUPONT EXPERIMENTAL STATION
SDG DPE01**

July 3, 1997

Prepared for:

DUPONT ENVIRONMENTAL REMEDIATION SERVICES
Barley Mill Plaza, Bldg 27
P.O. Box 80027
Routes 141 & 48
Wilmington, DE 19805

Prepared by:

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**QUALITY ASSURANCE REVIEW
OF THE SAMPLES COLLECTED
FOR THE DUPONT EXPERIMENTAL STATION**

SDG DPE01

July 3, 1997

Prepared for:

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Executive Summary

An analytical quality assurance review was performed on data for 21 aqueous samples (including field blanks, trip blanks, and matrix spike/matrix spike duplicate samples) in association with the DuPont Experimental Station project. The volatile organic compound analysis was performed by SW-846 Method 8240A. A comprehensive Contract Laboratory Program (CLP)-like raw data package was prepared by the laboratory and was received by Environmental Standards.

Overall, the data quality appears to be very good. It should be noted that some results were qualified due to quality control results and calibration issues. The actual quantitation limits for 1,1,1-trichloroethane in several samples were qualified due to a high percent drift (>25 %) in the direction of decreasing instrument sensitivity for the compound in the continuing calibration analysis associated with the samples. In addition, the "not-detected" results for 2-chloroethyl vinyl ether in all samples in the SDG are qualified as unusable because of a very low matrix spike recovery (<30%). Similarly, all project samples were preserved with hydrochloric acid and 2-chloroethyl vinyl ether is an acid labile compound.

Introduction

This quality assurance (QA) review is based upon a rigorous examination of all data generated from the analyses of 21 aqueous samples (including quality control [QC] samples) which were collected on May 5, 6, and 7, 1997, in association with the DuPont Experimental Station project. These samples were analyzed for the Priority Pollutant List (PPL) of volatile organic compounds by SW-846 Method 8240A. All analyses were performed by Lancaster Laboratories located in Lancaster, Pennsylvania. The samples included in this QA review are specified on Table 1. Table 1 also presents the client sample identifications, laboratory sample numbers, collection dates and parameters analyzed and reviewed.

This review has been performed in accordance with the "Region III Modifications to the National Functional Guidelines for Organic Data Review" (US EPA, June 1992).

The reported analytical results are presented as a summary of the data in Section 2. Data were examined to determine the usability of the analytical results. Qualifier codes have been placed next to results so that the data user can quickly assess the qualitative and/or quantitative reliability of any result. This critical QA review identifies data quality issues for specific samples and specific evaluation criteria. The data qualifications allow the data end-user to best understand the usability of the analysis results. It should be understood that data that have not been qualified in this report should be considered valid based on the QC criteria that have been reviewed. Details of this QA review are presented in the narrative section of this report. This report was prepared to provide a critical review of the laboratory analyses and reported analytical results. Rigorous QA reviews of laboratory-generated data routinely identify various problems associated with analytical measurements, even from the most experienced and capable laboratories.

TABLE 1
SAMPLES INCLUDED IN THIS QUALITY ASSURANCE REVIEW

DuPont Sample Identification	Laboratory Sample Number	SDG	Matrix	Date Sample Collected	Parameter Examined
EXP-MW-1A	2706088	DPE01	Aqueous	5/7/97	V
EXP-MW-1B	2706089	DPE01	Aqueous	5/7/97	V
EXP-MW-6-1	2706090	DPE01	Aqueous	5/5/97	V
EXP-MW-6-2	2706091	DPE01	Aqueous	5/5/97	V
EXP-MW-7	2706092	DPE01	Aqueous	5/7/97	V
EXP-MW-10	2706093	DPE01	Aqueous	5/7/97	V
EXP-MW-11	2706094	DPE01	Aqueous	5/5/97	V
EXP-MW-TBLK1 (Trip Blank)	2706095	DPE01	Aqueous	5/2/97	V
EXP-MW-EQBLK1 (Equipment Blank)	2706096	DPE01	Aqueous	5/5/97	V
EXP-MW-2A	2706097	DPE01	Aqueous	5/7/97	V
EXP-MW-2B	2706098	DPE01	Aqueous	5/7/97	V
EXP-MW-4	2706099	DPE01	Aqueous	5/6/97	V
EXP-MW-4MS (Matrix Spike)	2706099MS	DPE01	Aqueous	5/6/97	V
EXP-MW-4MSD (Matrix Spike Duplicate)	2706099MSD	DPE01	Aqueous	5/6/97	V
EXP-MW-5	2706100	DPE01	Aqueous	5/6/97	V
EXP-MW-9	2706101	DPE01	Aqueous	5/6/97	V
EXP-MW-EQBLK2 (Equipment Blank)	2706102	DPE01	Aqueous	5/6/97	V
EXP-MW-3A	2706103	DPE01	Aqueous	5/7/97	V
EXP-MW-3B	2706104	DPE01	Aqueous	5/7/97	V
EXP-MW-8	2706105	DPE01	Aqueous	5/7/97	V
EXP-MW-EQBLK3 (Equipment Blank)	2706106	DPE01	Aqueous	5/7/97	V

TABLE 1 (Cont.)

NOTES:

V Priority Pollutant List Volatile Organic Compounds Analyzed by SW-846 Method 8240A.

SDG Sample Delivery Group.

Section 1 Quality Assurance Review

A. Organic Data

The organic analyses of 21 aqueous samples (including QC samples) was performed by Lancaster Laboratories, located in Lancaster, Pennsylvania. These samples were analyzed for the PPL of volatile organic compounds according to SW-846 Method 8240A, as specified on Table 1.

The findings offered in this report are based on a rigorous review of the following:

- holding times
- matrix spike/matrix spike duplicate recoveries
- GC/MS system performance checks
- internal standard areas
- quantitation of positive results
- blank analysis results
- surrogate recoveries
- calibrations
- target compound matching

Analytical results are presented in Section 2 on qualified Analysis Data Sheets (Form I's).

Data Package Deliverables

Overall, the organic data quality appears to be very good. However, a few comments concerning the data package and sample analysis were noted. It should be emphasized that the following items do not necessarily affect data usability. Usability issues are addressed in the subsequent Organic Data Qualifiers section.

Comments

1. According to the Case Narrative, the quantitation limits for all compounds have been raised for the volatile organic analyses of sample EXP-MW-2B because a dilution was necessary to bring the target compounds into calibration range.
2. The laboratory performed the analysis of the following samples for the specified target compounds at the dilution factors indicated due to the high levels of the target compounds present in the samples. It should be noted that all of the samples listed below were initially analyzed undiluted, with the exception of sample EXP-MW-2B, which was analyzed initially at a 5-fold dilution. All results for the target compounds in the samples below were reported from the initial sample analysis, except for those target compounds presented on the table.

<u>Sample</u>	<u>Compound(s)</u>	<u>Dilution Factor</u>
EXP-MW-6-1	carbon tetrachloride	2.5×
EXP-MW-6-2	carbon tetrachloride	5×
EXP-MW-2A	<i>trans</i> -1,2-dichloroethene	2.5×
EXP-MW-2B	1,1,2,2-tetrachloroethane, trichloroethene, and <i>cis</i> -1,2-dichloroethene	40×
EXP-MW-3B	v vinyl chloride, 1,1,2,2-tetrachloroethane, trichloroethene, <i>cis</i> -1,2-dichloroethene, and <i>trans</i> -1,2-dichloroethene	25×

3. It should be noted that the laboratory did not submit Form I's for the matrix spike and matrix spike duplicate results. The laboratory did include a summary form in the data package showing the unspiked sample result, spiked sample result, percent recovery, and relative percent difference between the matrix spike and matrix spike duplicate.
4. According to SW-846 Method 8240A, the suggested matrix spike/matrix spike duplicate compounds are 1,1-dichloroethene, trichloroethene, chlorobenzene, toluene, and benzene. However, the laboratory spiked the matrix spike/matrix spike duplicate samples with all compounds using the spike concentrations found in SW-846 Method 8240A. The data reviewer used a percent recovery criterion of 70-130% and a relative percent difference (RPD) criterion of <20% to evaluate the usability of the data since criteria are not established in the US EPA Region III Functional Guidelines for all compounds.
5. The laboratory did not use complete sample identifications on the QC forms. The laboratory truncated the sample identifications because they contained too many characters to fit in the appropriate fields on the forms. This report refers to all samples with the identifications as they appear on the Chain-of-Custody records. The data users should be aware of the truncated sample numbers when reviewing this report and the associated Support Documentation (Section 3) and sample data package.

Data Evaluation

With regard to data usability, the principal areas of concern are continuing calibration issues, matrix spike recoveries, and sample preservation issues. Based upon a rigorous review of the data provided, the following organic data qualifiers are offered. It should be noted that the following data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the data validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis may not require corrective action by the laboratory. Accordingly, the following data usability issues should not be construed as an indication of laboratory performance.

Organic Data Qualifiers

- The analysis for 2-chloroethyl vinyl ether in all samples should be considered unusable, and the "not-detected" results have been flagged "R" on the qualified Form I's. All samples were preserved with hydrochloric acid. Acid labile compounds, such as 2-chloroethyl vinyl ether, are rapidly degraded in the aqueous samples when preserved with acids.
- The analysis for 2-chloroethyl vinyl ether in sample EXP-MW-4 should be considered unusable, and the "not-detected" results have been flagged "R" on the qualified Form I. A very low recovery (<30%) was observed for this compound in the matrix spike analysis of sample EXP-MW-4. It should be noted that, when aqueous samples are preserved with hydrochloric acid, it is not unusual to obtain low recoveries for acid labile compounds such as 2-chloroethyl vinyl ether. In addition, a high RPD (>20%) was observed between the 2-chloroethyl vinyl ether matrix spike/matrix duplicate results.
- The actual quantitation limits for 1,1,1-trichloroethane in samples EXP-MW-4, EXP-MW-1A, EXP-MW-1B, and EXP-MW-6-1 may be biased low, and the "not-detected" results have been flagged "UL" on the qualified Form I's. A high percent difference (25.7%, which is slightly above the 25% data validation criterion) in the direction of a decrease in instrument sensitivity was obtained for 1,1,1-trichloroethane between the average relative response factor (RRF) of the initial calibration and the RRF in the associated continuing calibration.



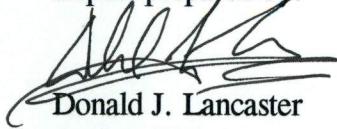
- According to the project-specific reporting requirements, all concentrations reported at levels less than the sample-specific quantitation limits (adjusted for sample volume and dilution factors) have been flagged "J" on the qualified Form I's and should be considered estimated.

A complete support documentation for this organic QA review is presented in Section 3 of this report. The cover sheet for this section is a checklist of all of the QA procedures required by the protocol and examined in this data review.

B. Conclusions

This QA review has identified some results that required qualification due to continuing calibration issues, matrix spike recoveries, and sample preservation issues. In general, the majority of the data is acceptable for use. To confidently use any of the analytical data within this sample set, the data user should understand the qualifications and limitations of the results. The Laboratory Case Narratives and Project Chain-of-Custody records are provided in Section 4.

Report prepared by:



Donald J. Lancaster
Senior Quality Assurance Chemist II/
Project Manager

Report reviewed by:



Stephen T. Zeiner, CPC
Senior Quality Assurance Chemist II

Report reviewed and approved by:



David R. Blye
Quality Assurance Specialist/Principal

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Date: 7-3-97

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SECTION 2

ANALYTICAL RESULTS

ORGANIC DATA QUALIFIERS

- U** The compound was not detected at or above the associated numerical value.
- J** Quantitation is approximate due to limitations identified during the quality assurance review (data validation).
- N** The analysis indicates that there is presumptive evidence to make a "tentative identification" of this compound.
- R** Unusable analysis; compound may or may not be present in this sample.
- UL** This compound was not detected, but the quantitation limit is probably higher due to a low bias identified during the quality assurance review.



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LLI Sample No. WW 2706088

Collected: 5/7/97 at 11:30 by SP

Submitted: 5/7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-MW-1A Water Sample

Project No. 7112-02-05

Experimental Station - GW Monitoring 1997

EXP1A SDG#: DPE01-01

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
 Rel. L13

CAT NO.	ANALYSIS NAME	RESULTS	AS RECEIVED	METHOD
DETECTION LIMIT UNITS				

PPL + Xylene (total) by 8240

1258	Chloromethane	N.D.	3.	ug/l
1257	Bromomethane	N.D.	3.	ug/l
3492	Vinyl Chloride	N.D.	2.	ug/l
3494	Chloroethane	N.D.	3.	ug/l
3495	Acrolein	N.D.	40.	ug/l
3496	Acrylonitrile	N.D.	10.	ug/l
3497	Methylene Chloride	N.D.	2.	ug/l
3500	1,1-Dichloroethene	N.D.	1.	ug/l
3501	1,1-Dichloroethane	N.D.	2.	ug/l
3503	Chloroform	2.	J 3	ug/l
3504	1,2-Dichloroethane	N.D.	2.	ug/l
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l
2506	Carbon Tetrachloride	N.D.	1.	ug/l
08	Bromodichloromethane	N.D.	1.	ug/l
23	1,1,2,2-Tetrachloroethane	N.D.	2.	ug/l
3509	1,2-Dichloropropane	N.D.	1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l
3511	Trichloroethene	N.D.	1.	ug/l
3512	Dibromochloromethane	N.D.	2.	ug/l
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l
3515	Benzene	N.D.	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l
3518	Bromoform	N.D.	1.	ug/l
3522	Tetrachloroethene	N.D.	1.	ug/l
3524	Toluene	N.D.	2.	ug/l
3525	Chlorobenzene	N.D.	1.	ug/l
3526	Ethylbenzene	N.D.	2.	ug/l
5780	trans-1,2-Dichloroethene	N.D.	2.	ug/l
6268	cis-1,2-Dichloroethene	N.D.	2.	ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
 Nancy Bornholm at (717) 656-2300



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681

Respectfully Submitted
 Duane A. Luckenbill, B.S.
 Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.





Page: 2 of 6

LLI Sample No. WW 2706089

Collected: 5/7/97 at 11:25 by SP

Submitted: 5/7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-MW-1B Water Sample

Project No. 7112-02-05

Experimental Station - GW Monitoring 1997

EXP1B SDG#: DPE01-02

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
 Rel. L13

AS RECEIVED METHOD
 RESULTS DETECTION LIMIT UNITS

PPL + Xylene (total) by 8240

1258	Chloromethane	N.D.	3.	ug/l
1257	Bromomethane	N.D.	3.	ug/l
3492	Vinyl Chloride	N.D.	2.	ug/l
3494	Chloroethane	N.D.	3.	ug/l
3495	Acrolein	N.D.	40.	ug/l
3496	Acrylonitrile	N.D.	10.	ug/l
3497	Methylene Chloride	N.D.	2.	ug/l
3500	1,1-Dichloroethene	N.D.	1.	ug/l
3501	1,1-Dichloroethane	N.D.	2.	ug/l
3503	Chloroform	N.D.	1.	ug/l
3504	1,2-Dichloroethane	N.D.	2.	ug/l
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l
3506	Carbon Tetrachloride	N.D.	1.	ug/l
08	Bromodichloromethane	N.D.	1.	ug/l
23	1,1,2,2-Tetrachloroethane	N.D.	2.	ug/l
3509	1,2-Dichloropropane	N.D.	1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l
3511	Trichloroethene	N.D.	1.	ug/l
3512	Dibromochloromethane	N.D.	2.	ug/l
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l
3515	Benzene	N.D.	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l
3518	Bromoform	N.D.	1.	ug/l
3522	Tetrachloroethene	N.D.	1.	ug/l
3524	Toluene	N.D.	2.	ug/l
3525	Chlorobenzene	N.D.	1.	ug/l
3526	Ethylbenzene	N.D.	2.	ug/l
5780	trans-1,2-Dichloroethene	N.D.	2.	ug/l
6268	cis-1,2-Dichloroethene	N.D.	2.	ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
 Nancy Bornholm at (717) 656-2300

Respectfully Submitted
 Duane A. Luckenbill, B.S.
 Group Leader, GC/MS Volatiles



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.





Page: 2 of 6

LLI Sample No. WW 2706090

Collected: 5/ 5/97 at 13:00 by SP

Submitted: 5/ 7/97 Reported: 5/22/97
Discard: 6/22/97EXP-MW-6-1 Water Sample
Project No. 7112-02-05
Experimental Station - GW Monitoring 1997
EXP61 SDG#: DPE01-03

Account No: 07032
DERS/DuPont Env Remed Services
Barley Mill Plaza, Bldg. 27
Routes 141 & 48
Wilmington DE 19805

P.O. LBI0-62248
ReL. L13

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
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PPL + Xylene (total) by 8240

1258	Chloromethane	N.D.	3.	ug/l
1257	Bromomethane	N.D.	3.	ug/l
3492	Vinyl Chloride	N.D.	2.	ug/l
3494	Chloroethane	N.D.	3.	ug/l
3495	Acrolein	N.D.	40.	ug/l
3496	Acrylonitrile	N.D.	10.	ug/l
3497	Methylene Chloride	N.D.	2.	ug/l
3500	1,1-Dichloroethene	N.D.	1.	ug/l
3501	1,1-Dichloroethane	N.D.	2.	ug/l
3503	Chloroform	61.	1.	ug/l
3504	1,2-Dichloroethane	N.D.	2.	ug/l
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l
06	Carbon Tetrachloride	650.	3.	ug/l
08	Bromodichloromethane	N.D.	1.	ug/l
3523	1,1,2,2-Tetrachloroethane	N.D.	2.	ug/l
3509	1,2-Dichloropropane	N.D.	1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l
3511	Trichloroethene	3. J	1.	ug/l
3512	Dibromochloromethane	N.D.	2.	ug/l
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l
3515	Benzene	N.D.	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l
3518	Bromoform	N.D.	1.	ug/l
3522	Tetrachloroethene	3. J	1.	ug/l
3524	Toluene	N.D.	2.	ug/l
3525	Chlorobenzene	N.D.	1.	ug/l
3526	Ethylbenzene	N.D.	2.	ug/l
5780	trans-1,2-Dichloroethene	N.D.	2.	ug/l
6268	cis-1,2-Dichloroethene	N.D.	2.	ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
Nancy Bornholm at (717) 656-2300Respectfully Submitted
Duane A. Luckenbill, B.S.
Group Leader, GC/MS Volatiles

Lancaster Laboratories
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PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

30





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LLI Sample No. WW 2706091

Collected: 5/5/97 at 13:00 by SP

Submitted: 5/7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-MW-6-2 Water Sample
 Project No. 7112-02-05
 Experimental Station - GW Monitoring 1997
 EXP62 SDG#: DPE01-04

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
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AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT UNITS
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PPL + Xylene (total) by 8240

1258	Chloromethane	N.D.	3.	ug/l
1257	Bromomethane	N.D.	3.	ug/l
3492	Vinyl Chloride	N.D.	2.	ug/l
3494	Chloroethane	N.D.	3.	ug/l
3495	Acrolein	N.D.	40.	ug/l
3496	Acrylonitrile	N.D.	10.	ug/l
3497	Methylene Chloride	N.D.	2.	ug/l
3500	1,1-Dichloroethene	N.D.	1.	ug/l
3501	1,1-Dichloroethane	N.D.	2.	ug/l
3503	Chloroform	66.	1.	ug/l
3504	1,2-Dichloroethane	N.D.	2.	ug/l
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l
36	Carbon Tetrachloride	730.	5.	ug/l
38	Bromodichloromethane	N.D.	1.	ug/l
3523	1,1,2,2-Tetrachloroethane	N.D.	2.	ug/l
3509	1,2-Dichloropropane	N.D.	1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l
3511	Trichloroethene	4.	J	1.
3512	Dibromochloromethane	N.D.	2.	ug/l
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l
3515	Benzene	N.D.	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l
3518	Bromoform	N.D.	1.	ug/l
3522	Tetrachloroethene	3.	J	1.
3524	Toluene	N.D.	2.	ug/l
3525	Chlorobenzene	N.D.	1.	ug/l
3526	Ethylbenzene	N.D.	2.	ug/l
5780	trans-1,2-Dichloroethene	N.D.	2.	ug/l
6268	cis-1,2-Dichloroethene	N.D.	2.	ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
 Nancy Bornholm at (717) 656-2300

Respectfully Submitted
 Duane A. Luckenbill, B.S.
 Group Leader, GC/MS Volatiles



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. WW 2706092

Collected: 5/7/97 at 13:35 by SP

Submitted: 5/7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-MW-7 Water Sample
 Project No. 7112-02-05
 Experimental Station - GW Monitoring 1997
 EXP-7 SDG#: DPE01-05

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
 Rel. L13

AS RECEIVED

METHOD

RESULTS DETECTION LIMIT UNITS

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT UNITS
1258	Chloromethane	N.D.	3.	ug/l
1257	Bromomethane	N.D.	3.	ug/l
3492	Vinyl Chloride	N.D.	2.	ug/l
3494	Chloroethane	N.D.	3.	ug/l
3495	Acrolein	N.D.	40.	ug/l
3496	Acrylonitrile	N.D.	10.	ug/l
3497	Methylene Chloride	N.D.	2.	ug/l
3500	1,1-Dichloroethene	N.D.	1.	ug/l
3501	1,1-Dichloroethane	N.D.	2.	ug/l
3503	Chloroform	N.D.	1.	ug/l
3504	1,2-Dichloroethane	N.D.	2.	ug/l
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l
2516	Carbon Tetrachloride	N.D.	1.	ug/l
18	Bromodichloromethane	N.D.	1.	ug/l
3523	1,1,2,2-Tetrachloroethane	N.D.	2.	ug/l
3509	1,2-Dichloropropane	N.D.	1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l
3511	Trichloroethene	9.	1.	ug/l
3512	Dibromochloromethane	N.D.	2.	ug/l
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l
3515	Benzene	N.D.	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l
3518	Bromoform	N.D.	1.	ug/l
3522	Tetrachloroethene	3.	J	1. ug/l
3524	Toluene	N.D.	2.	ug/l
3525	Chlorobenzene	N.D.	1.	ug/l
3526	Ethylbenzene	N.D.	2.	ug/l
5780	trans-1,2-Dichloroethene	N.D.	2.	ug/l
6268	cis-1,2-Dichloroethene	N.D.	2.	ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
 Nancy Bornholm at (717) 656-2300



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681

Respectfully Submitted
 Duane A. Luckenbill, B.S.
 Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.



Page: 2 of 6

LLI Sample No. WW 2706093

Collected: 5/7/97 at 13:30 by SP

Submitted: 5/7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-MW-10 Water Sample

Project No. 7112-02-05

Experimental Station - GW Monitoring 1997

EXP10 SDG#: DPE01-06

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
 ReL. L13

CAT NO.	ANALYSIS NAME	RESULTS	AS RECEIVED	
			METHOD	DETECTION LIMIT UNITS
1258	Chloromethane	N.D.	3.	ug/l
1257	Bromomethane	N.D.	3.	ug/l
3492	Vinyl Chloride	N.D.	2.	ug/l
3494	Chloroethane	N.D.	3.	ug/l
3495	Acrolein	N.D.	40.	ug/l
3496	Acrylonitrile	N.D.	10.	ug/l
3497	Methylene Chloride	N.D.	2.	ug/l
3500	1,1-Dichloroethene	N.D.	1.	ug/l
3501	1,1-Dichloroethane	N.D.	2.	ug/l
3503	Chloroform	1.	J J	1. ug/l
3504	1,2-Dichloroethane	N.D.	2.	ug/l
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l
3506	Carbon Tetrachloride	N.D.	1.	ug/l
08	Bromodichloromethane	N.D.	1.	ug/l
23	1,1,2,2-Tetrachloroethane	N.D.	2.	ug/l
3509	1,2-Dichloropropane	N.D.	1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l
3511	Trichloroethene	3.	J J	1. ug/l
3512	Dibromochloromethane	N.D.	2.	ug/l
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l
3515	Benzene	N.D.	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l
3518	Bromoform	N.D.	1.	ug/l
3522	Tetrachloroethene	N.D.	1.	ug/l
3524	Toluene	N.D.	2.	ug/l
3525	Chlorobenzene	N.D.	1.	ug/l
3526	Ethylbenzene	N.D.	2.	ug/l
5780	trans-1,2-Dichloroethene	N.D.	2.	ug/l
6268	cis-1,2-Dichloroethene	N.D.	2.	ug/l



Page: 2 of 6

LLI Sample No. WW 2706094

Collected: 5/ 5/97 at 08:53 by SP

Submitted: 5/ 7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-MW-11 Water Sample

Project No. 7112-02-05

Experimental Station - GW Monitoring 1997

EXP11 SDG#: DPE01-07

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
 Rel. L13

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
PPL + Xylene (total) by 8240				

1258	Chloromethane	N.D.	3.	ug/l	
1257	Bromomethane	N.D.	3.	ug/l	
3492	Vinyl Chloride	N.D.	2.	ug/l	
3494	Chloroethane	N.D.	3.	ug/l	
3495	Acrolein	N.D.	40.	ug/l	
3496	Acrylonitrile	N.D.	10.	ug/l	
3497	Methylene Chloride	N.D.	2.	ug/l	
3500	1,1-Dichloroethene	N.D.	1.	ug/l	
3501	1,1-Dichloroethane	N.D.	2.	ug/l	
3503	Chloroform	5.	1.	ug/l	
3504	1,2-Dichloroethane	N.D.	2.	ug/l	
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l	
3506	Carbon Tetrachloride	N.D.	1.	ug/l	
508	Bromodichloromethane	N.D.	1.	ug/l	
523	1,1,2,2-Tetrachloroethane	N.D.	2.	ug/l	
3509	1,2-Dichloropropane	N.D.	1.	ug/l	
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l	
3511	Trichloroethene	N.D.	1.	ug/l	
3512	Dibromochloromethane	N.D.	2.	ug/l	
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l	
3515	Benzene	N.D.	1.	ug/l	
3516	cis-1,3-Dichloropropene	N.D.	1.	ug/l	
3645	2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l	
3518	Bromoform	N.D.	1.	ug/l	
3522	Tetrachloroethene	2.	J	1.	ug/l
3524	Toluene	N.D.	2.	ug/l	
3525	Chlorobenzene	N.D.	1.	ug/l	
3526	Ethylbenzene	N.D.	2.	ug/l	
5780	trans-1,2-Dichloroethene	N.D.	2.	ug/l	
6268	cis-1,2-Dichloroethene	N.D.	2.	ug/l	

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
 Nancy Bornholm at (717) 656-2300



Lancaster Laboratories
 2425 New Holland Pike
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 717-656-2300 Fax: 717-656-2681

Respectfully Submitted
 Duane A. Luckenbill, B.S.
 Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.





Page: 2 of 6

LLI Sample No. WW 2706095

Collected: 5/ 2/97 at 08:30 by LK

Submitted: 5/ 7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-TBLK1 Trip Blank Water Sample
 Project No. 7112-02-05
 Experimental Station - GW Monitoring 1997
 EXTB1 SDG#: DPE01-08TB

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
 Rel. L13

AS RECEIVED

METHOD

RESULTS DETECTION LIMIT UNITS

CAT NO. ANALYSIS NAME

1258	Chloromethane	N.D.	3.	ug/l
1257	Bromomethane	N.D.	3.	ug/l
3492	Vinyl Chloride	N.D.	2.	ug/l
3494	Chloroethane	N.D.	3.	ug/l
3495	Acrolein	N.D.	40.	ug/l
3496	Acrylonitrile	N.D.	10.	ug/l
3497	Methylene Chloride	N.D.	2.	ug/l
3500	1,1-Dichloroethene	N.D.	1.	ug/l
3501	1,1-Dichloroethane	N.D.	2.	ug/l
3503	Chloroform	N.D.	1.	ug/l
3504	1,2-Dichloroethane	N.D.	2.	ug/l
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l
3506	Carbon Tetrachloride	N.D.	1.	ug/l
08	Bromodichloromethane	N.D.	1.	ug/l
23	1,1,2,2-Tetrachloroethane	N.D.	2.	ug/l
3509	1,2-Dichloropropane	N.D.	1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l
3511	Trichloroethene	N.D.	1.	ug/l
3512	Dibromochloromethane	N.D.	2.	ug/l
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l
3515	Benzene	N.D.	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l
3518	Bromoform	N.D.	1.	ug/l
3522	Tetrachloroethene	N.D.	1.	ug/l
3524	Toluene	N.D.	2.	ug/l
3525	Chlorobenzene	N.D.	1.	ug/l
3526	Ethylbenzene	N.D.	2.	ug/l
5780	trans-1,2-Dichloroethene	N.D.	2.	ug/l
6268	cis-1,2-Dichloroethene	N.D.	2.	ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
 Nancy Bornholm at (717) 656-2300

Respectfully Submitted
 Duane A. Luckenbill, B.S.
 Group Leader, GC/MS Volatiles

MEMBER
ACI
 Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. WW 2706096

Collected: 5/5/97 at 09:06 by NK

Submitted: 5/7/97 Reported: 5/22/97
Discard: 6/22/97EXP-EBLK1 Equipment Blank Water Sample
Project No. 7112-02-05
Experimental Station - GW Monitoring 1997
EXEB1 SDG#: DPE01-09EB

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
Rel. L13

CAT NO.	ANALYSIS NAME	RESULTS	AS RECEIVED	METHOD	DETECTION LIMIT	UNITS
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PPL + Xylene (total) by 8240

1258	Chloromethane	N.D.	3.	ug/l
1257	Bromomethane	N.D.	3.	ug/l
3492	Vinyl Chloride	N.D.	2.	ug/l
3494	Chloroethane	N.D.	3.	ug/l
3495	Acrolein	N.D.	40.	ug/l
3496	Acrylonitrile	N.D.	10.	ug/l
3497	Methylene Chloride	N.D.	2.	ug/l
3500	1,1-Dichloroethene	N.D.	1.	ug/l
3501	1,1-Dichloroethane	N.D.	2.	ug/l
3503	Chloroform	N.D.	1.	ug/l
3504	1,2-Dichloroethane	N.D.	2.	ug/l
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l
6	Carbon Tetrachloride	N.D.	1.	ug/l
8	Bromodichloromethane	N.D.	1.	ug/l
3523	1,1,2,2-Tetrachloroethane	N.D.	2.	ug/l
3509	1,2-Dichloropropane	N.D.	1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l
3511	Trichloroethene	N.D.	1.	ug/l
3512	Dibromochloromethane	N.D.	2.	ug/l
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l
3515	Benzene	N.D.	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l
3518	Bromoform	N.D.	1.	ug/l
3522	Tetrachloroethene	N.D.	1.	ug/l
3524	Toluene	N.D.	2.	ug/l
3525	Chlorobenzene	N.D.	1.	ug/l
3526	Ethylbenzene	N.D.	2.	ug/l
5780	trans-1,2-Dichloroethene	N.D.	2.	ug/l
6268	cis-1,2-Dichloroethene	N.D.	2.	ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
Nancy Bornholm at (717) 656-2300



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Respectfully Submitted
Duane A. Luckenbill, B.S.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations





Page: 2 of 6

LLI Sample No. WW 2706097

Collected: 5/7/97 at 12:15 by NK

Submitted: 5/7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-MW-2A Water Sample

Project No. 7112-02-05

Experimental Station - GW Monitoring 1997

EXP2A SDG#: DPE01-10

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
 Rel. L13

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
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PPL + Xylene (total) by 8240

1258	Chloromethane	N.D.		3.	ug/l
1257	Bromomethane	N.D.		3.	ug/l
3492	Vinyl Chloride	210.		2.	ug/l
3494	Chloroethane	N.D.		3.	ug/l
3495	Acrolein	N.D.		40.	ug/l
3496	Acrylonitrile	N.D.		10.	ug/l
3497	Methylene Chloride	N.D.		2.	ug/l
3500	1,1-Dichloroethene	N.D.		1.	ug/l
3501	1,1-Dichloroethane	N.D.		2.	ug/l
3503	Chloroform	N.D.		1.	ug/l
3504	1,2-Dichloroethane	N.D.		2.	ug/l
3505	1,1,1-Trichloroethane	N.D.		1.	ug/l
3506	Carbon Tetrachloride	N.D.		1.	ug/l
3508	Bromodichloromethane	N.D.		1.	ug/l
3523	1,1,2,2-Tetrachloroethane	100.		2.	ug/l
3509	1,2-Dichloropropane	N.D.		1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.		1.	ug/l
3511	Trichloroethene	19.		1.	ug/l
3512	Dibromochloromethane	N.D.		2.	ug/l
3513	1,1,2-Trichloroethane	3.	J	2.	ug/l
3515	Benzene	19.	J	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	R	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.		2.	ug/l
3518	Bromoform	N.D.		1.	ug/l
3522	Tetrachloroethene	22.		1.	ug/l
3524	Toluene	6.		2.	ug/l
3525	Chlorobenzene	2.	J	1.	ug/l
3526	Ethylbenzene	N.D.		2.	ug/l
5780	trans-1,2-Dichloroethene	530.		5.	ug/l
6268	cis-1,2-Dichloroethene	230.		2.	ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
 Nancy Bornholm at (717) 656-2300

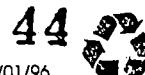
Respectfully Submitted
 Duane A. Luckenbill, B.S.
 Group Leader, GC/MS Volatiles



Lancaster Laboratories
 2425 New Holland Pike
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 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 5/01/96





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LLI Sample No. WW 2706098

Collected: 5/7/97 at 12:20 by NK

Submitted: 5/7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-MW-2B Water Sample
 Project No. 7112-02-05
 Experimental Station - GW Monitoring 1997
 EXP2B SDG#: DPE01-11

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
 Rel. L13

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
PPL + Xylene (total)	by 8240				
1258	Chloromethane	N.D.		15.	ug/l
1257	Bromomethane	N.D.		15.	ug/l
3492	Vinyl Chloride	N.D.		10.	ug/l
3494	Chloroethane	N.D.		15.	ug/l
3495	Acrolein	N.D.		200.	ug/l
3496	Acrylonitrile	N.D.		50.	ug/l
3497	Methylene Chloride	N.D.		10.	ug/l
3500	1,1-Dichloroethene	6.	J	5.	ug/l
3501	1,1-Dichloroethane	N.D.		10.	ug/l
3503	Chloroform	19.	J	5.	ug/l
3504	1,2-Dichloroethane	N.D.		10.	ug/l
3505	1,1,1-Trichloroethane	N.D.		5.	ug/l
3506	Carbon Tetrachloride	N.D.		5.	ug/l
508	Bromodichloromethane	N.D.		5.	ug/l
523	1,1,2,2-Tetrachloroethane	2,400.		80.	ug/l
3509	1,2-Dichloropropane	N.D.		5.	ug/l
3510	trans-1,3-Dichloropropene	N.D.		5.	ug/l
3511	Trichloroethene	6,500.		40.	ug/l
3512	Dibromochloromethane	N.D.		10.	ug/l
3513	1,1,2-Trichloroethane	220.		10.	ug/l
3515	Benzene	40.		5.	ug/l
3516	cis-1,3-Dichloropropene	N.D.		5.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	R	10.	ug/l
3518	Bromoform	N.D.		5.	ug/l
3522	Tetrachloroethene	34.		5.	ug/l
3524	Toluene	13.	J	10.	ug/l
3525	Chlorobenzene	7.	J	5.	ug/l
3526	Ethylbenzene	N.D.		10.	ug/l
5780	trans-1,2-Dichloroethene	560.		10.	ug/l
6268	cis-1,2-Dichloroethene	2,400.		80.	ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

The quantitation limits for the GC/MS volatile compounds were raised because sample dilution was necessary to bring target compounds into the calibration range of the system.

Questions? Contact your Client Services Representative
 Nancy Bornholm at (717) 656-2300



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681

Respectfully Submitted
 Duane A. Luckenbill, B.S.
 Group Leader, GC/MS Volatiles

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LLI Sample No. WW 2706099

Collected: 5/ 6/97 at 15:50 by NK

Submitted: 5/ 7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-MW-4 Unspiked Water Sample

Project No. 7112-02-05

Experimental Station - GW Monitoring 1997

EXP-4 SDG#: DPE01-12BK

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
 Rel. L13

PPL + Xylene (total) by 8240

CAT NO.	ANALYSIS NAME	RESULTS	AS RECEIVED		
			METHOD	DETECTION LIMIT	UNITS
1258	Chloromethane	N.D.	3.	ug/l	
1257	Bromomethane	N.D.	3.	ug/l	
3492	Vinyl Chloride	11.	2.	ug/l	
3494	Chloroethane	N.D.	3.	ug/l	
3495	Acrolein	N.D.	40.	ug/l	
3496	Acrylonitrile	N.D.	10.	ug/l	
3497	Methylene Chloride	N.D.	2.	ug/l	
3500	1,1-Dichloroethene	N.D.	1.	ug/l	
3501	1,1-Dichloroethane	N.D.	2.	ug/l	
3503	Chloroform	N.D.	1.	ug/l	
3504	1,2-Dichloroethane	N.D.	2.	ug/l	
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l	
3506	Carbon Tetrachloride	N.D.	1.	ug/l	
3508	Bromodichloromethane	N.D.	1.	ug/l	
3523	1,1,2,2-Tetrachloroethane	N.D.	2.	ug/l	
3509	1,2-Dichloropropane	N.D.	1.	ug/l	
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l	
3511	Trichloroethene	23.	1.	ug/l	
3512	Dibromochloromethane	N.D.	2.	ug/l	
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l	
3515	Benzene	2.	J	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	J	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	R	2.	ug/l
3518	Bromoform	N.D.	J	1.	ug/l
3522	Tetrachloroethene	45.	J	1.	ug/l
3524	Toluene	N.D.	J	2.	ug/l
3525	Chlorobenzene	N.D.	J	1.	ug/l
3526	Ethylbenzene	N.D.	J	2.	ug/l
5780	trans-1,2-Dichloroethene	4.	J	2.	ug/l
6268	cis-1,2-Dichloroethene	24.	J	2.	ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
 Nancy Bornholm
 at (717) 656-2300

Respectfully Submitted
 Duane A. Luckenbill, B.S.
 Group Leader, GC/MS Volatiles



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LLI Sample No. WW 2706100

Collected: 5/6/97 at 11:00 by NK

Submitted: 5/7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-MW-5 Water Sample

Project No. 7112-02-05

Experimental Station - GW Monitoring 1997

EXP-5 SDG#: DPE01-13

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
 Rel. L13

AS RECEIVED

METHOD

RESULTS DETECTION LIMIT UNITS

CAT NO. ANALYSIS NAME

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT UNITS
1258	Chloromethane	N.D.	J	3. ug/l
1257	Bromomethane	N.D.	J	3. ug/l
3492	Vinyl Chloride	N.D.	J	2. ug/l
3494	Chloroethane	N.D.	J	3. ug/l
3495	Acrolein	N.D.	J	40. ug/l
3496	Acrylonitrile	N.D.	J	10. ug/l
3497	Methylene Chloride	N.D.	J	2. ug/l
3500	1,1-Dichloroethene	N.D.	J	1. ug/l
3501	1,1-Dichloroethane	N.D.	J	2. ug/l
3503	Chloroform	N.D.	J	1. ug/l
3504	1,2-Dichloroethane	N.D.	J	2. ug/l
3505	1,1,1-Trichloroethane	N.D.	J	1. ug/l
3506	Carbon Tetrachloride	N.D.	J	1. ug/l
08	Bromodichloromethane	N.D.	J	1. ug/l
23	1,1,2,2-Tetrachloroethane	N.D.	J	2. ug/l
3509	1,2-Dichloropropane	N.D.	J	1. ug/l
3510	trans-1,3-Dichloropropene	N.D.	J	1. ug/l
3511	Trichloroethene	2. J	J	1. ug/l
3512	Dibromochloromethane	N.D.	J	2. ug/l
3513	1,1,2-Trichloroethane	N.D.	J	2. ug/l
3515	Benzene	N.D.	J	1. ug/l
3516	cis-1,3-Dichloropropene	N.D.	J	1. ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	J	2. ug/l
3518	Bromoform	N.D.	J	1. ug/l
3522	Tetrachloroethene	N.D.	J	1. ug/l
3524	Toluene	N.D.	J	2. ug/l
3525	Chlorobenzene	N.D.	J	1. ug/l
3526	Ethylbenzene	N.D.	J	2. ug/l
5780	trans-1,2-Dichloroethene	N.D.	J	2. ug/l
6268	cis-1,2-Dichloroethene	N.D.	J	2. ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
 Nancy Bornholm
 at (717) 656-2300

Respectfully Submitted
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 Group Leader, GC/MS Volatiles



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LLI Sample No. WW 2706101

Collected: 5/6/97 at 09:00 by NK

Submitted: 5/7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-MW-9 Water Sample
 Project No. 7112-02-05
 Experimental Station - GW Monitoring 1997
 EXP-9 SDG#: DPE01-14

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
 Rel. L13

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
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PPL + Xylene (total) by 8240

1258	Chloromethane	N.D.	3.	ug/l
1257	Bromomethane	N.D.	3.	ug/l
3492	Vinyl Chloride	N.D.	2.	ug/l
3494	Chloroethane	N.D.	3.	ug/l
3495	Acrolein	N.D.	40.	ug/l
3496	Acrylonitrile	N.D.	10.	ug/l
3497	Methylene Chloride	N.D.	2.	ug/l
3500	1,1-Dichloroethene	N.D.	1.	ug/l
3501	1,1-Dichloroethane	N.D.	2.	ug/l
3503	Chloroform	1. J	1.	ug/l
3504	1,2-Dichloroethane	N.D.	2.	ug/l
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l
306	Carbon Tetrachloride	N.D.	1.	ug/l
308	Bromodichloromethane	N.D.	1.	ug/l
3523	1,1,2,2-Tetrachloroethane	N.D.	2.	ug/l
3509	1,2-Dichloropropane	N.D.	1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l
3511	Trichloroethene	2. J	1.	ug/l
3512	Dibromochloromethane	N.D.	2.	ug/l
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l
3515	Benzene	N.D.	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l
3518	Bromoform	N.D.	1.	ug/l
3522	Tetrachloroethene	1. J	1.	ug/l
3524	Toluene	N.D.	2.	ug/l
3525	Chlorobenzene	N.D.	1.	ug/l
3526	Ethylbenzene	N.D.	2.	ug/l
5780	trans-1,2-Dichloroethene	N.D.	2.	ug/l
6268	cis-1,2-Dichloroethene	N.D.	2.	ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
 Nancy Bornholm at (717) 656-2300



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 Group Leader, GC/MS Volatiles

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2216 Rev. 5/01/96





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LLI Sample No. WW 2706102

Collected: 5/ 6/97 at 09:25 by NK

Submitted: 5/ 7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-EQBLK2 Equipment Blank Water Sample

Project No. 7112-02-05

Experimental Station - GW Monitoring 1997

EXEB2 SDG#: DPE01-15EB

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
 Rel. L13

AS RECEIVED

CAT	NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
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PPL + Xylene (total) by 8240

1258		Chloromethane	N.D.	3.	ug/l
1257		Bromomethane	N.D.	3.	ug/l
3492		Vinyl Chloride	N.D.	2.	ug/l
3494		Chloroethane	N.D.	3.	ug/l
3495		Acrolein	N.D.	40.	ug/l
3496		Acrylonitrile	N.D.	10.	ug/l
3497		Methylene Chloride	N.D.	2.	ug/l
3500		1,1-Dichloroethene	N.D.	1.	ug/l
3501		1,1-Dichloroethane	N.D.	2.	ug/l
3503		Chloroform	N.D.	1.	ug/l
3504		1,2-Dichloroethane	N.D.	2.	ug/l
3505		1,1,1-Trichloroethane	N.D.	1.	ug/l
3506		Carbon Tetrachloride	N.D.	1.	ug/l
508		Bromodichloromethane	N.D.	1.	ug/l
523		1,1,2,2-Tetrachloroethane	N.D.	2.	ug/l
3509		1,2-Dichloropropane	N.D.	1.	ug/l
3510		trans-1,3-Dichloropropene	N.D.	1.	ug/l
3511		Trichloroethene	N.D.	1.	ug/l
3512		Dibromochloromethane	N.D.	2.	ug/l
3513		1,1,2-Trichloroethane	N.D.	2.	ug/l
3515		Benzene	N.D.	1.	ug/l
3516		cis-1,3-Dichloropropene	N.D.	1.	ug/l
3645		2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l
3518		Bromoform	N.D.	1.	ug/l
3522		Tetrachloroethene	N.D.	1.	ug/l
3524		Toluene	N.D.	2.	ug/l
3525		Chlorobenzene	N.D.	1.	ug/l
3526		Ethylbenzene	N.D.	2.	ug/l
5780		trans-1,2-Dichloroethene	N.D.	2.	ug/l
6268		cis-1,2-Dichloroethene	N.D.	2.	ug/l

R
 2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
 Nancy Bornholm at (717) 656-2300



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Respectfully Submitted
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 Group Leader, GC/MS Volatiles

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2216 Rev. 5/01/96




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LLI Sample No. WW 2706103

Collected: 5/7/97 at 09:55 by NK

Submitted: 5/7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-MW-3A Water Sample

Project No. 7112-02-05

Experimental Station - GW Monitoring 1997

EXP3A SDG#: DPE01-16

 Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805
P.O. LBIO-62248
Rel. L13

AS RECEIVED

METHOD

RESULTS DETECTION LIMIT UNITS

CAT NO. ANALYSIS NAME

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT UNITS
1258	Chloromethane	N.D.	3.	ug/l
1257	Bromomethane	N.D.	3.	ug/l
3492	Vinyl Chloride	N.D.	2.	ug/l
3494	Chloroethane	N.D.	3.	ug/l
3495	Acrolein	N.D.	40.	ug/l
3496	Acrylonitrile	N.D.	10.	ug/l
3497	Methylene Chloride	N.D.	2.	ug/l
3500	1,1-Dichloroethene	N.D.	1.	ug/l
3501	1,1-Dichloroethane	N.D.	2.	ug/l
3503	Chloroform	N.D.	1.	ug/l
3504	1,2-Dichloroethane	N.D.	2.	ug/l
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l
2506	Carbon Tetrachloride	N.D.	1.	ug/l
08	Bromodichloromethane	N.D.	1.	ug/l
223	1,1,2,2-Tetrachloroethane	22.	2.	ug/l
3509	1,2-Dichloropropane	N.D.	1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l
3511	Trichloroethene	18.	1.	ug/l
3512	Dibromochloromethane	N.D.	2.	ug/l
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l
3515	Benzene	N.D.	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l
3518	Bromoform	N.D.	1.	ug/l
3522	Tetrachloroethene	36.	1.	ug/l
3524	Toluene	N.D.	2.	ug/l
3525	Chlorobenzene	N.D.	1.	ug/l
3526	Ethylbenzene	N.D.	2.	ug/l
5780	trans-1,2-Dichloroethene	34.	2.	ug/l
6268	cis-1,2-Dichloroethene	27.	2.	ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

 Questions? Contact your Client Services Representative
 Nancy Bornholm at (717) 656-2300

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 Respectfully Submitted
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 Group Leader, GC/MS Volatiles

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LLI Sample No. WW 2706104

Collected: 5/7/97 at 10:59 by NK

Submitted: 5/7/97 Reported: 5/22/97

Discard: 6/22/97

EXP-MW-3B Water Sample
 Project No. 7112-02-05
 Experimental Station - GW Monitoring 1997
 EXP3B SDG#: DPE01-17

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
 Rel. L13

AS RECEIVED

CAT	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
-----	---------------	---------	--------	-----------------	-------

PPL + Xylene (total) by 8240

1258	Chloromethane	N.D.		3.	ug/l
1257	Bromomethane	N.D.		3.	ug/l
3492	Vinyl Chloride	340.		50.	ug/l
3494	Chloroethane	N.D.		3.	ug/l
3495	Acrolein	N.D.		40.	ug/l
3496	Acrylonitrile	N.D.		10.	ug/l
3497	Methylene Chloride	N.D.		2.	ug/l
3500	1,1-Dichloroethene	5.	J J	1.	ug/l
3501	1,1-Dichloroethane	N.D.		2.	ug/l
3503	Chloroform	9.		1.	ug/l
3504	1,2-Dichloroethane	N.D.		2.	ug/l
3505	1,1,1-Trichloroethane	N.D.		1.	ug/l
2506	Carbon Tetrachloride	N.D.		1.	ug/l
08	Bromodichloromethane	N.D.		1.	ug/l
223	1,1,2,2-Tetrachloroethane	4,900.		50.	ug/l
3509	1,2-Dichloropropane	N.D.		1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.		1.	ug/l
3511	Trichloroethene	1,500.		25.	ug/l
3512	Dibromochloromethane	N.D.		2.	ug/l
3513	1,1,2-Trichloroethane	36.		2.	ug/l
3515	Benzene	120.		1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.		1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.		2.	ug/l
3518	Bromoform	N.D.		1.	ug/l
3522	Tetrachloroethene	55.		1.	ug/l
3524	Toluene	N.D.		2.	ug/l
3525	Chlorobenzene	14.		1.	ug/l
3526	Ethylbenzene	N.D.		2.	ug/l
5780	trans-1,2-Dichloroethene	790.		50.	ug/l
6268	cis-1,2-Dichloroethene	690.		50.	ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
 Nancy Bornholm
 at (717) 656-2300



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Respectfully Submitted
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 Group Leader, GC/MS Volatiles

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2216 Rev. 5/01/96




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LLI Sample No. WW 2706105

Collected: 5/7/97 at 08:50 by NK

Submitted: 5/7/97 Reported: 5/22/97
Discard: 6/22/97EXP-MW-8 Water Sample
Project No. 7112-02-05
Experimental Station - GW Monitoring 1997
EXP-8 SDG#: DPE01-18

Account No: 07032
 DERS/DuPont Env Remed Services
 Barley Mill Plaza, Bldg. 27
 Routes 141 & 48
 Wilmington DE 19805

P.O. LBI0-62248
ReL. L13

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
---------	---------------	---------	--------	-----------------	-------

PPL + Xylene (total) by 8240

1258	Chloromethane	N.D.	3.	ug/l
1257	Bromomethane	N.D.	3.	ug/l
3492	Vinyl Chloride	N.D.	2.	ug/l
3494	Chloroethane	N.D.	3.	ug/l
3495	Acrolein	N.D.	40.	ug/l
3496	Acrylonitrile	N.D.	10.	ug/l
3497	Methylene Chloride	N.D.	2.	ug/l
3500	1,1-Dichloroethene	N.D.	1.	ug/l
3501	1,1-Dichloroethane	N.D.	2.	ug/l
3503	Chloroform	N.D.	1.	ug/l
3504	1,2-Dichloroethane	N.D.	2.	ug/l
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l
06	Carbon Tetrachloride	N.D.	1.	ug/l
08	Bromodichloromethane	N.D.	1.	ug/l
3523	1,1,2,2-Tetrachloroethane	3.	J J	ug/l
3509	1,2-Dichloropropane	N.D.	1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l
3511	Trichloroethene	25.	R	ug/l
3512	Dibromochlormethane	N.D.	2.	ug/l
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l
3515	Benzene	N.D.	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l
3518	Bromoform	N.D.	1.	ug/l
3522	Tetrachloroethene	47.		ug/l
3524	Toluene	N.D.	2.	ug/l
3525	Chlorobenzene	N.D.	1.	ug/l
3526	Ethylbenzene	N.D.	2.	ug/l
5780	trans-1,2-Dichloroethene	12.		ug/l
6268	cis-1,2-Dichloroethene	52.		ug/l

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
Nancy Bornholm at (717) 656-2300Respectfully Submitted
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Group Leader, GC/MS Volatiles
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 717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. WW 2706106

Collected: 5/7/97 at 11:15 by NK

Submitted: 5/7/97 Reported: 5/22/97
Discard: 6/22/97EXP-EQBLK3 Equipment Blank Water Sample
Project No. 7112-02-05
Experimental Station - GW Monitoring 1997
EXEB3 SDG#: DPE01-19EB*

Account No: 07032
DERS/DuPont Env Remed Services
Barley Mill Plaza, Bldg. 27
Routes 141 & 48
Wilmington DE 19805

P.O. LBI0-62248
ReL. L13

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
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PPL + Xylene (total) by 8240

1258	Chloromethane	N.D.	3.	ug/l
1257	Bromomethane	N.D.	3.	ug/l
3492	Vinyl Chloride	N.D.	2.	ug/l
3494	Chloroethane	N.D.	3.	ug/l
3495	Acrolein	N.D.	40.	ug/l
3496	Acrylonitrile	N.D.	10.	ug/l
3497	Methylene Chloride	N.D.	2.	ug/l
3500	1,1-Dichloroethene	N.D.	1.	ug/l
3501	1,1-Dichloroethane	N.D.	2.	ug/l
3503	Chloroform	N.D.	1.	ug/l
3504	1,2-Dichloroethane	N.D.	2.	ug/l
3505	1,1,1-Trichloroethane	N.D.	1.	ug/l
3506	Carbon Tetrachloride	N.D.	1.	ug/l
508	Bromodichloromethane	N.D.	1.	ug/l
523	1,1,2,2-Tetrachloroethane	N.D.	2.	ug/l
3509	1,2-Dichloropropane	N.D.	1.	ug/l
3510	trans-1,3-Dichloropropene	N.D.	1.	ug/l
3511	Trichloroethene	N.D.	1.	ug/l
3512	Dibromochloromethane	N.D.	2.	ug/l
3513	1,1,2-Trichloroethane	N.D.	2.	ug/l
3515	Benzene	N.D.	1.	ug/l
3516	cis-1,3-Dichloropropene	N.D.	1.	ug/l
3645	2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l
3518	Bromoform	N.D.	1.	ug/l
3522	Tetrachloroethene	N.D.	1.	ug/l
3524	Toluene	N.D.	2.	ug/l
3525	Chlorobenzene	N.D.	1.	ug/l
3526	Ethylbenzene	N.D.	2.	ug/l
5780	trans-1,2-Dichloroethene	N.D.	2.	ug/l
6268	cis-1,2-Dichloroethene	N.D.	2.	ug/l

R

2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.

Questions? Contact your Client Services Representative
Nancy Bornholm at (717) 656-2300

Respectfully Submitted
Duane A. Luckenbill, B.S.
Group Leader, GC/MS Volatiles

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Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.



SECTION 3

ORGANIC DATA SUPPORT DOCUMENTATION

Organic Analyses Support Documentation

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Sample Collection Standards Project Name:	DNA Evidence	Reviewed By:	P. Lorraine	Approved By:	S. J. Schaefer	Completion Dates:	5/15/97 - 5/19/97	Sample Collection Dates:	4/10/97 - 4/16/97	Job Number:	034	Project Manager:	-	Lab Director:	LLT
Refer to Table T-1 in the				Applicable Sample No's.:				Quality Assurance Review							

Deliverables: CLP Suite
Tier I
Tier II
Tier III
Limited
Other

Criteria	Examiner's Detail	Problems Identified	Attachments Documented	Comments Below
Support Documentation	Supplementary Documentation	Identified Problems	Attachments	Footnote Letter for Check (A) if Yes or Yes -- Footnote Number for Attachment No.
				Comments Below Footnote Letter for Check (A) if Yes or Yes -- Footnote Number for Attachment No.

BLANK ANALYSIS RESULTS FOR TARGET ORGANIC COMPOUNDS

S = Semivolatile; P = Pesticide/PCB; O = Other:

\downarrow = Liquid; \uparrow = Solid

Aq. = Aqueous; S = Solid; EB = Equipment Rinse Blank; FB = Field Blank

2 - MB = Method Blank; TB = Trip Blank; EB
IB = Instrument Blank; SB = Storage Blank

IB = Instrument Blank; SD = Standard. No chromatograms and/or supporting data; mass spectra not provided.

* = Inferred from instrument printouts and/or s

+ = Contaminant observed on one column only.

+ = Contaminant Susceptible

Notes.



Where quality is a science.

2A

Lab Name: LANCASTER LABS

SDG NO: DPE01

	EPA SAMPLE NO.	S1 (DCA) #	S2 (TOL) #	S3 (BFB) #	OTHER	TOT OUT
01	EXP1A✓	91✓	95✓	98✓		
02	EXP1B✓	95✓	95✓	98✓		
03	EXP61✓	94✓	95✓	97✓		
04	EXP61DL✓	95✓	95✓	99✓		
05	EXP62✓	98✓	95✓	98✓		
06	EXP62DL✓	98✓	96✓	100✓		
07	EXP-7✓	96✓	94✓	97✓		
08	EXP10✓	98✓	98✓	100✓		
09	EXP11✓	93✓	97✓	99✓		
10	EXTB1✓	97✓	95✓	99✓		
11	EXEB1✓	92✓	94✓	98✓		
12	EXP2A✓	97✓	96✓	96✓		
13	EXP2ADL✓	96✓	97✓	97✓		
14	EXP2B✓	93✓	97✓	96✓		
15	EXP2BDL✓	96✓	97✓	96✓		
16	EXP-4✓	95✓	96✓	100✓		
17	EXP-4MS✓	96✓	100✓	104✓		
18	EXP-4MSD✓	93✓	103✓	105✓		
19	EXP-5✓	95✓	96✓	98✓		
20	EXP-9✓	96✓	96✓	101✓		
21	EXEB2✓	100✓	99✓	103✓		
22	EXP3A✓	95✓	98✓	98✓		
23	EXP3B✓	97✓	94✓	95✓		
24	EXP3BDL✓	95✓	96✓	96✓		
25	EXP-8✓	96✓	94✓	96✓		
26	EXEB3✓	92✓	93✓	95✓		
27						
28	LAB QC					
29	VBLKD98✓	90✓	94✓	99✓		
30	VBLKD04✓	101✓	95✓	102✓		
31	VBLKD05✓	92✓	93✓	98✓		
32	VBLKD06✓	94✓	96✓	99✓		

QC LIMITS

S1 (DCA) = 1,2-Dichloroethane-d4
S2 (TOL) = Toluene-d8
S3 (BFB) = 4-Bromofluorobenzene

76 - 114
88 - 110
86 - 115

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Lancaster Laboratories, Inc.
GC/MS Volatiles Matrix Spike/Spike Duplicate Recoveries

Unspiked: ^DYC10
EXP-4 2706099
Method: 1508
Instrument: HP02700

Matrix spike: ^DYC11
EXP-4MS 2706099
Matrix/Level: WL
Dilution Factor: 1.0

Spike Duplicate: ^DYC12
EXP-4MSD 2706099
Batch: D971321AA

COMPOUND NAME	SPIKE LEVEL	US CONC UG/L	MS CONC UG/L	MSD CONC UG/L	MS REC %	MSD REC %	RPD %	RANGE LOWER-UPPER	IN SPEC
Chloromethane	20.00	0.00	18.56✓	17.76✓	93	89	4	1-273	YES
Vinyl Chloride	20.00	10.59	31.04✓	28.87✓	102	91	11	1-251	YES
Bromomethane	20.00	0.00	18.79✓	17.92✓	94	90	4	1-242	YES
Chloroethane	20.00	0.00	16.80✓	16.16✓	84	81	4	14-230	YES
Acrolein	150.00	0.00	146.28✓	149.23✓	98	99	-1	22-169	YES
1,1-Dichloroethene	20.00	0.00	21.36✓	21.13✓	107	106	1	1-234	YES
Ethylene Chloride	20.00	0.00	18.97✓	19.32✓	95	97	-2	1-221	YES
Acrylonitrile	150.00	0.00	146.59✓	151.33✓	98	101	-3	51-138	YES
trans-1,2-Dichloroethene	20.00	4.20	24.20✓	23.98✓	100	99	1	54-156	YES
1,1-Dichloroethane	20.00	0.00	20.81✓	21.39✓	104	107	-3	59-155	YES
cis-1,2-Dichloroethene	20.00	24.37	44.96✓	41.98✓	103	88	16	54-156	YES
Chloroform	20.00	0.00	20.52✓	20.88✓	103	104	-1	51-138	YES
1,2-Dichloroethane	20.00	0.00	19.32✓	19.45✓	97	97	0	49-155	YES
1,1,1-Trichloroethane	20.00	0.00	20.85✓	21.04✓	104	105	-1	52-162	YES
Carbon Tetrachloride	20.00	0.00	19.79✓	19.84✓	99	99	0	70-140	YES
Benzene	20.00	1.61	22.37✓	23.07✓	104	107	-3	37-151	YES
Trichloroethylene	20.00	23.33	43.84✓	41.63✓	102	92	10	71-157	YES
1,2-Dichloropropane	20.00	0.00	20.87✓	21.59✓	104	108	-4	1-210	YES
Bromodichloromethane	20.00	0.00	19.91✓	19.76✓	100	99	1	35-155	YES
2-Chloroethyl Vinyl Ether	20.00	0.00	5.84✓	7.59✓	(29)	(38)	(-27)	1-305	YES
cis-1,3-Dichloropropene	20.00	0.00	20.21✓	20.77✓	101	104	-3	1-227	YES
trans-1,3-Dichloropropene	20.00	0.00	20.09✓	19.39✓	100	97	3	17-183	YES
1,1,2-Trichloroethane	20.00	0.00	20.63✓	20.17✓	103	101	2	52-150	YES
Bibromochloromethane	20.00	0.00	19.33✓	19.68✓	97	98	-1	53-149	YES
Bromoform	20.00	0.00	18.53✓	18.08✓	93	90	3	45-169	YES
Toluene	20.00	0.00	21.27✓	21.66✓	106	108	-2	47-150	YES
Tetrachloroethene	20.00	45.37	66.50✓	64.42✓	106	95	11	64-148	YES
Chlorobenzene	20.00	0.00	21.69✓	22.20✓	108	111	-3	37-160	YES
Methylbenzene	20.00	0.00	21.46✓	22.89✓	107	114	-6	37-162	YES
1,1,2,2-Tetrachloroethane	20.00	0.00	21.62✓	21.97✓	108	110	-2	46-157	YES

N/C = Could not calculate

ab Chronicle: _____ Ent. by _____.

Ver. by _____.

*RPD for this compound exceeds method specified limit.

PAGE 1 OF 1

2-chloroethyl vinyl ether - flag "R" due to
very low (<30%) MS/MSD recoveries.
May be due to acid-preservation of
samples.

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS

Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >DYCB1

Lab Sample ID: VBLKD98

Date Analyzed: 05/12/97

Time Analyzed: 10:21

Matrix: (soil/water) WATER

Level: (low/med) LOW

Instrument ID: HP02700

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01 EXP-4	2706099	>DYC10	14:32
02 EXP-4MS	2706099	>DYC11	15:18
03 EXP-4MSD	2706099	>DYC12	16:06
04 EXP1A	2706088	>DYC13	16:59
05 EXP1B	2706089	>DYC14	17:33
06 EXP61	2706090	>DYC15	18:20
07 EXP61DL	2706090	>DYC16	19:11
08			
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10			
11			
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COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____
 Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
 Lab File ID: >DYEB2 Lab Sample ID: VBLKD04
 Date Analyzed: 05/14/97 Time Analyzed: 06:34
 Matrix: (soil/water) WATER Level: (low/med) LOW
 Instrument ID: HP02700

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01 EXP62	2706091	>DYE05	11:05
02 EXP62DL	2706091	>DYE06	12:14
03 EXP-7	2706092	>DYE07	13:04
04 EXP10	2706093	>DYE08	13:45
05 EXP11	2706094	>DYE10	15:22
06 EXTB1	2706095	>DYE11	16:09
07			
08			
09			
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COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

L Name: LANCASTER LABS Contract: _____
 Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
 Lab File ID: >DYEB3 Lab Sample ID: VBLKD05
 Date Analyzed: 05/14/97 Time Analyzed: 19:24
 Matrix: (soil/water) WATER Level: (low/med) LOW
 Instrument ID: HP02700

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01 EXEB1	2706096	>DYE12	20:07
02 EXP2A	2706097	>DYE13	20:48
03 EXP2ADL	2706097	>DYE14	21:33
04 EXP2B	2706098	>DYE15	22:26
05 EXP2BDL	2706098	>DYE16	01:06
06 EXP-5	2706100	>DYE17	01:42
07 EXP-9	2706101	>DYE18	02:17
08 EXEB2	2706102	>DYE19	02:52
09 EXP3A	2706103	>DYE20	03:26
10 EXP3B	2706104	>DYE21	04:02
11			
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COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS

Contract: _____

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >DYFB2

Lab Sample ID: VBLKD06

Date Analyzed: 05/15/97

Time Analyzed: 13:44

Matrix: (soil/water) WATER

Level: (low/med) LOW

Instrument ID: HP02700

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EXP3BDL	2706104	>DYF01	14:34
02	EXP-8	2706105	>DYF02	16:13
03	EXEB3	2706106	>DYF03	17:00
04				
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30				

COMMENTS: _____

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMQFLUOROBENZENE (BFB)

Lab Name: LANCASTER LABS

Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >DY9T3

BFB Injection Date: 05/09/97

Instrument ID: HP02700

BFB Injection Time: 14:20

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	22.0
75	30.0 - 60.0% of mass 95	49.0
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	5.8
173	Less than 2.0% of mass 174	.6 (.8)1
174	Greater than 50.0% of mass 95	76.0
175	5.0 - 9.0% of mass 174	5.2 (6.8)1
176	Greater than 95.0%, but less than 101.0% of mass 174	73.4 (96.5)1
177	5.0 - 9.0% of mass 176	6.0 (8.2)2

1-Value is % mass 174

2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01 VSTD050	050ppb IC	>DY9I4	05/09/97	17:09
02 VSTD020	020ppb IC	>DY9I7	05/09/97	17:45
03 VSTD100	100ppb IC	>DY9I5	05/09/97	18:23
04 VSTD300	300ppb IC	>DY9I6	05/09/97	18:57
05 VSTD004	004ppb IC	>DY9I9	05/09/97	21:44
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22				

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance		Status
		Base Peak	Appropriate Peak	
50	15-40% of mass 95	22.02	22.02	Ok
75	30-60% of mass 95	49.06	49.06	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	5.80	5.80	Ok
173	Less than 2% of mass 174	.62	.81	Ok
174	Greater than 50% of mass 95	76.04	76.04	Ok
175	5-9% of mass 174	5.16	6.78	Ok
176	95-101% of mass 174	73.35	96.46	Ok
177	5-9% of mass 176	6.00	8.18	Ok

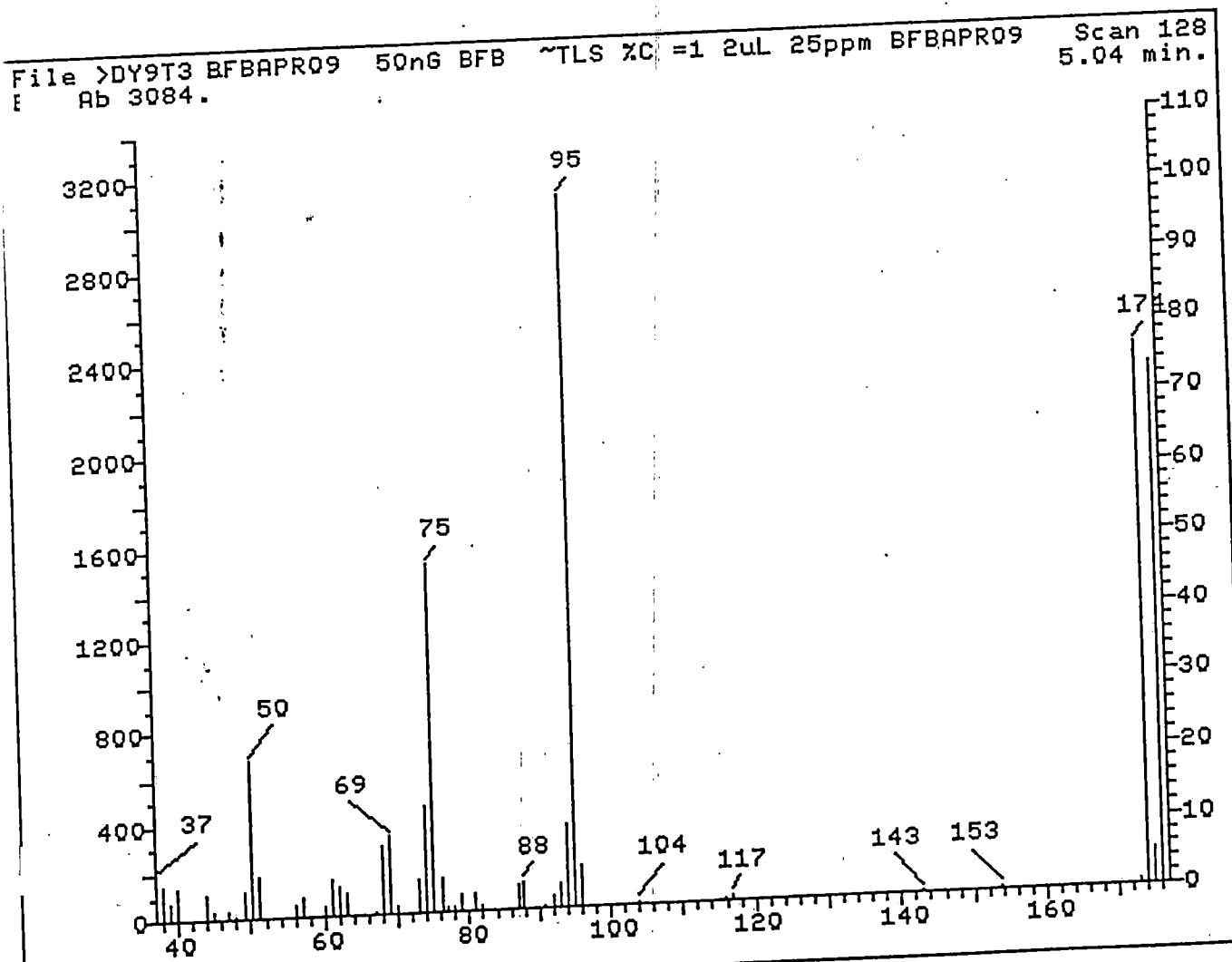
Injection Date: 05/09/97

Injection Time: 14:20

Data File: >DY9T3

Scan: 128

INSTRUMENT HP02700



ANALYSIS DATE/TIME
5/09/97 14:20
INSTRUMENT HP02700

>DY9T3 BFBAPR09 50nG BFB ~TLS %C =1 2uL 25ppm BFBAPR09
128 NRM

File: >DY9T3 Scan #: 128 Retn. time: 5.04

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.05	5.93	51.05	5.97	70.05	.97	86.95	3.37	115.80	.36
38.05	4.80	56.00	1.69	73.05	4.96	87.90	3.86	116.80	.81
38.95	2.56	57.00	2.76	74.05	15.01	90.90	.49	142.95	.42
40.00	4.44	59.95	1.33	75.05	49.06	92.00	1.88	153.65	.55
43.90	3.31	61.05	5.32	76.10	4.83	93.00	3.63	172.90	.62
44.90	1.04	62.05	4.22	76.90	.88	94.05	11.74	174.00	76.04
46.95	1.26	63.05	3.05	77.90	.84	95.05	100.00	175.00	5.16
47.95	.58	67.10	.45	78.90	2.56	96.05	5.80	176.00	73.35
49.05	3.73	68.00	9.70	80.90	2.33	103.90	.45	176.95	6.00
50.05	22.02	69.00	10.89	81.75	.84				

..196., IS THE AREA OF MASS 95

MAX SCAN IS 128.00

SUBTRACTED SPECTRA ARE ONE BEFORE OR ONE AFTER PEAK START AND STOP
ENH IS AVERAGE OF MAXIMUM SCAN AND 2 SCANS ON EITHER SIDE

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS

Contract: _____

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____

Instrument ID: HP02700 Calibration Date(s): 05/09/97 05/09/97

Calibration Times: 1709 2144

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min RRF for SPCC(#) = 0.300 (0.10 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID:	RRF 4= >DY919 ✓	RRF 20= >DY917 ✓	RRF 50= >DY914 ✓	RRF100= >DY915 ✓	RRF300= >DY916 ✓	%	CAL.	
COMPOUND	RRF 4	RRF 20	RRF 50	RRF100	RRF300	RRF	RSD	METHOD
Dichlorodifluoromethane	2.600	2.596	2.745	2.749	2.894	2.717	4.6	AVG
Chloromethane ✓	# .932	.883	.919	.952	.950	.927	3.0	AVG #
Vinyl Chloride ✓	* .881	.909	.888	.924	.958	.912	3.4	AVG *
Bromoform ✓	1.308	1.239	1.164	1.239	1.173	1.225	4.8	AVG
Chloroethane ✓	.547	.489	.478	.518	.493	.505	5.5	AVG
Trichlorofluoromethane	2.405	2.483	2.502	2.534	2.644	2.513	3.5	AVG
Ethyl Ether	.498	.484	.464	.492	.481	.484	2.7	AVG
Acrolein ✓	.093	.084	.080	.088	.089	.087	5.7	AVG
Dichloroethene ✓	* 1.034	.938	.954	.968	.931	.965	4.3	AVG *
n-113	2.547	2.221	2.256	2.352	2.218	2.319	6.0	AVG
Acetone	.060	.170	.152	.158	.163	.141	32.6	2NDDEG + NTC
Methyl Iodide	3.906	3.562	3.616	3.828	3.650	3.712	4.0	AVG
Carbon Disulfide	3.179	2.668	2.627	2.744	2.771	2.798	7.9	AVG
2-Propanol	.026	.026	.021	.023	.023	.024	7.6	AVG + NTC
Allyl Chloride	1.045	.826	.829	1.109	1.121	.986	14.9	AVG
Methylene Chloride ✓	1.484	1.079	1.014	1.011	.994	1.116	18.6	2NDDEG
t-Butyl Alcohol	.051	.069	.058	.064	.064	.061	11.2	AVG
Acrylonitrile ✓	.149	.143	.131	.145	.141	.142	4.7	AVG
Methyl t-Butyl Ether	1.900	1.806	1.669	1.748	1.668	1.758	5.6	AVG
trans-1,2-Dichloroethene ✓	1.095	.960	.949	1.008	.939	.990	6.5	AVG
n-Hexane	.901	.845	.925	.975	.944	.918	5.3	AVG
1,1-Dichloroethane ✓	# 1.908	1.963	1.943	2.058	1.994	1.973	2.9	AVG #
2-Chloro-1,3-Butadiene	1.378	1.444	1.476	1.529	1.475	1.460	3.8	AVG
2,2-Dichloropropane	1.583	1.512	1.576	1.615	1.474	1.552	3.7	AVG
cis-1,2-Dichloroethene ✓	1.088	1.130	1.085	1.149	1.108	1.112	2.5	AVG
Propionitrile	.052	.057	.050	.057	.057	.055	6.6	AVG
Methacrylonitrile	.201	.210	.194	.206	.210	.204	3.4	AVG
Tetrahydrofuran	.179	.174	.168	.191	.232	.189	13.4	AVG
Chloroform ✓	* 2.669	2.674	2.643	2.748	2.583	2.663	2.2	AVG *
Cyclohexane	1.180	1.116	1.148	1.227	1.153	1.165	3.6	AVG
1,1-Dichloropropene	1.554	1.524	1.556	1.640	1.523	1.559	3.1	AVG
1,2-Dichloroethane ✓	1.637	1.604	1.622	1.708	1.632	1.641	2.4	AVG
Vinyl Acetate	.037	.048	.043	.048	.049	.045	11.1	AVG
2-Butanone	.082	.084	.075	.082	.077	.080	4.9	AVG + NTC

NTC - not a target compound

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____

Lab Code: LANCAS Case No.: _____. SAS No. _____. SDG No. _____

Instrument ID: HP02700 Calibration Date(s): 05/09/97 05/09/97

Calibration Times: 1709 2144

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min RRF for SPCC(#) = 0.300 (0.10 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID:	RRF 4= >DY919	RRF 20= >DY917					%	CAL.
RRF 50= >DY914	RRF100= >DY915	RRF300= >DY916						
COMPOUND	RRF 4	RRF 20	RRF 50	RRF100	RRF300	RRF	RSD	METHOD
1,1,1-Trichloroethane	.624	.615	.642	.650	.621	.630	2.4	AVG
Carbon Tetrachloride	.597	.591	.611	.639	.619	.611	3.1	AVG
Isobutyl Alcohol	.004	.005	.004	.004	.004	.004	8.2	AVG
Benzene	.691	.700	.663	.689	.664	.681	2.5	AVG
n-Heptane	.180	.174	.184	.194	.191	.185	4.3	AVG
n-Butanol	.002	.003	.002	.003	.003	.003	14.2	AVG
1,1-Chloroethene	.437	.440	.422	.442	.425	.433	2.1	AVG
Dichloropropane	* .352	.362	.348	.359	.347	.354	1.9	AVG *
Methyl Methacrylate	.145	.163	.152	.164	.162	.157	5.5	AVG
Dibromomethane	.483	.493	.471	.477	.471	.479	1.9	AVG
1,4-Dioxane	.002	.002	.002	.002	.002	.002	12.1	AVG
n-Propyl Acetate	.088	.098	.088	.097	.098	.094	5.5	AVG
Bromodichloromethane	.808	.861	.850	.864	.848	.846	2.7	AVG
2-Nitropropane	.062	.070	.065	.074	.075	.069	8.0	AVG
2-Chloroethyl Vinyl Ether	.140	.160	.148	.170	.175	.159	9.4	AVG
cis-1,3-Dichloropropene	.468	.522	.511	.534	.532	.513	5.3	AVG
trans-1,3-Dichloropropene	.416	.467	.473	.497	.498	.470	7.1	AVG
1,1,2-Trichloroethane	.345	.353	.348	.358	.348	.350	1.5	AVG
Dibromochloromethane	.770	.855	.853	.863	.858	.840	4.7	AVG
Bromoform	# .603	.676	.663	.685	.689	.663	5.3	AVG #
trans-1,4-Dichloro-2-Butene	.107	.127	.114	.124	.124	.119	7.0	AVG
4-Methyl-2-Pentanone	.283	.293	.277	.304	.305	.292	4.2	AVG
Toluene	* 1.024	1.056	1.067	1.083	1.053	1.057	2.0	AVG *
Ethyl Methacrylate	.360	.461	.445	.476	.485	.445	11.2	AVG
Tetrachloroethene	.591	.616	.605	.642	.574	.606	4.3	AVG
1,3-Dichloropropane	.610	.655	.658	.664	.626	.643	3.6	AVG
2-Hexanone	.160	.193	.183	.209	.207	.190	10.4	AVG
1,2-Dibromoethane	.782	.876	.870	.889	.861	.855	4.9	AVG
Chlorobenzene	# .889	.928	.942	.938	.900	.919	2.6	AVG #
1,1,1,2-Tetrachloroethane	.554	.601	.636	.633	.600	.605	5.4	AVG
Ethylbenzene	* .321	.342	.363	.357	.343	.345	4.8	AVG *
m+p-Xylene	.438	.457	.461	.469	.439	.453	3.1	AVG
o-Xylene	.400	.437	.453	.454	.431	.435	5.0	AVG
Styrene	.687	.758	.787	.802	.785	.764	6.0	AVG

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____

Lab Code: LANCAS Case No.: _____. SAS No. _____. SDG No. _____.
Instrument ID: HP02700 Calibration Date(s): 05/09/97 05/09/97

Calibration Times: 1709 2144

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min RRF for SPCC(#) = 0.300 (0.10 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID:	RRF 4= >DY919	RRF 20= >DY917	RRF 50= >DY914	RRF100= >DY915	RRF300= >DY916		X	CAL.	
COMPOUND	RRF 4	RRF 20	RRF 50	RRF100	RRF300	RRF	RSD	METHOD	
Isopropylbenzene	1.217	1.314	1.372	1.413	1.372	1.338	5.7	AVG	
1,1,2,2-Tetrachloroethane ✓	.690	.769	.733	.708	.676	.715	5.2	AVG	#
Bromobenzene	.592	.638	.651	.645	.594	.624	4.6	AVG	
1,2,3-Trichloropropane	.166	.177	.167	.174	.167	.170	2.9	AVG	
n-Propylbenzene	1.773	1.640	1.721	1.729	1.686	1.710	2.9	AVG	
2-Chlorotoluene	.349	.354	.370	.376	.372	.364	3.3	AVG	
✓ 5-Trimethylbenzene	1.075	1.135	1.164	1.176	1.163	1.142	3.5	AVG	
chlorotoluene	.360	.398	.394	.406	.382	.388	4.6	AVG	
tert-Butylbenzene	1.396	1.381	1.468	1.510	1.449	1.441	3.7	AVG	
Pentachloroethane	.378	.333	.378	.441	.433	.393	11.4	AVG	
1,2,4-Trimethylbenzene	1.082	1.175	1.206	1.197	1.167	1.166	4.2	AVG	
sec-Butylbenzene	1.491	1.544	1.626	1.649	1.646	1.591	4.4	AVG	
1,3-Dichlorobenzene	.786	.858	.866	.887	.840	.847	4.5	AVG	
p-Isopropyltoluene	1.171	1.196	1.281	1.273	1.246	1.233	3.9	AVG	
1,4-Dichlorobenzene	1.008	1.043	1.057	1.085	1.067	1.052	2.7	AVG	
n-Butylbenzene	1.185	1.265	1.319	1.356	1.321	1.289	5.2	AVG	
1,2-Dichlorobenzene	.854	.901	.899	.896	.876	.885	2.3	AVG	
1,2-Dibromo-3-Chloropropane	.157	.190	.170	.181	.199	.179	9.3	AVG	
1,2,4-Trichlorobenzene	.622	.629	.578	.627	.628	.617	3.5	AVG	
Hexachlorobutadiene	.607	.557	.550	.540	.488	.548	7.8	AVG	
Naphthalene	.771	.814	.648	.721	.752	.741	8.4	AVG	
1,2,3-Trichlorobenzene	.554	.559	.476	.501	.476	.513	8.0	AVG	
1,2-Dichloroethane-d4 ✓	1.258	1.353	1.485	1.534	1.586	1.443	9.4	AVG	
Toluene-d8 ✓	.827	.836	.990	1.033	1.114	.960	13.0	AVG	
4-Bromofluorobenzene ✓	.824	.841	.979	.926	.967	.907	7.9	AVG	

Supporting Data
PF-5/27/97

Calibration Report

Title: Calibration File for 8240 Waters - Instr. HP02700
 Calibrated: 970509 22:54

Files: >DY919 >DY917 >DY914 >DY915 >DY916

Comp No.	Compound	RF 4.00	RF 20.00	RF 50.00	RF 100.00	RF 300.00	\bar{RF}	% RSD	CORR1	CORR2	Yint1	Yint2
1) Dichlorodifluoromethane		2.60003	2.59552	2.74537	2.74860	2.89360	2.71662	4.562	.999876	.999994	2.48	.354
2) Chloromethane		.93202	.88345	.91943	.95179	.94994	.92733	3.011	.999980	.999980	.880	.958
3) Vinyl Chloride		.88091	.90865	.88778	.92449	.95752	.91187	3.377	.999906	.999986	2.10	.356
4) Bromomethane		1.30841	1.23888	1.16420	1.23947	1.17288	1.22477	4.791	.999791	.999915	-1.47	.732
5) Chloroethane		.54651	.48852	.47782	.51838	.49258	.50476	5.485	.999771	.999879	-.649	1.36
6) Dichlorofluoromethane		-	-	-	-	-	-	-	-	-	-	-
7) Trichlorofluoromethane		2.40508	2.48250	2.50151	2.53369	2.64403	2.51336	3.463	.999905	1.00000	2.07	.147
8) n-Pentane		-	-	-	-	-	-	-	-	-	-	-
9) Ethyl Ether		.49759	.48435	.46405	.49231	.48088	.48384	2.658	.999927	.999942	-.0585	.715
10) Furfuran		-	-	-	-	-	-	-	-	-	-	-
11) Acrolein		.09295	.08370	.08017	.08848	.08876	.08681	5.702	.999863	.999872	17.01	11.15 (Conc)
12) 1,1-Dichloroethene		1.03424	.93835	.95361	.96842	.93055	.96504	4.283	.999903	.999987	-1.31	.493
13) Freon 113		2.54746	2.22138	2.25628	2.35248	2.21844	2.31921	5.978	.999773	.999948	-1.56	1.02
14) Acetone		.05951	.17005	.15241	.15812	.16257	.14053	32.556	.999898	.999919	3.95	2.19 (Conc)
15) t-Butylamine		-	-	-	-	-	-	-	-	-	-	-
16) Methyl Iodide		3.90588	3.56181	3.61558	3.82809	3.64986	3.71224	3.968	.999821	.999933	-.714	1.32
17) Carbon Disulfide		3.17903	2.66833	2.62656	2.74414	2.77123	2.79786	7.892	.999952	.999969	.942	.103
18) 2-Propanol		.02552	.02556	.02150	.02296	.02274	.02365	7.645	.999855	.999867	-4.39	-8.99 (Conc)
19) Acetonitrile		-	-	-	-	-	-	-	-	-	-	(Conc)
20) Allyl Chloride		1.04483	.82614	.82934	1.10904	1.12086	.98604	14.947	.999133	.999145	5.61	5.01
21) 3-Chloro-1-Propene		-	-	-	-	-	-	-	-	-	-	-
) Methylene Chloride		1.48364	1.07891	1.01392	1.01096	.99441	1.11637	18.617	.999995	.999996	-1.83	-1.75
c) t-Butyl Alcohol		.05116	.06911	.05779	.06384	.06370	.06112	11.222	.999776	.999778	9.03	10.51 (Conc)
24) Acrylonitrile		.14899	.14307	.13111	.14529	.14115	.14192	4.728	.999819	.999836	2.78	10.87 (Conc)
25) Methyl t-Butyl Ether		1.89982	1.80623	1.66858	1.74835	1.66825	1.75825	5.586	.999863	.999943	-1.63	.167
26) trans-1,2-Dichloroethene		1.09521	.96003	.94943	1.00829	.93915	.99042	6.491	.999665	.999909	-1.87	1.18
27) Hexane		-	-	-	-	-	-	-	-	-	-	-
28) n-Hexane		.90099	.84516	.92546	.97459	.94386	.91801	5.315	.999872	.999941	.403	1.97
29) 1,1-Dichloroethane		1.90786	1.96275	1.94259	2.05795	1.99401	1.97303	2.882	.999902	.999948	-.0817	1.23
30) di-Isopropyl Ether		-	-	-	-	-	-	-	-	-	-	(Conc)
31) 1-Propanol		-	-	-	-	-	-	-	-	-	-	-
32) 2-Chloro-1,3-Butadiene		1.37814	1.44421	1.47560	1.52875	1.47465	1.46027	3.772	.999899	.999977	-.467	1.23
33) 2,2-Dichloropropane		1.58331	1.51164	1.57609	1.61505	1.47357	1.55193	3.718	.999432	.999960	-2.96	1.48
34) cis-1,2-Dichloroethene		1.08791	1.12996	1.08544	1.14877	1.10767	1.11195	2.454	.999888	.999944	-.519	.947
35) Propionitrile		.05160	.05723	.04976	.05657	.05744	.05452	6.562	.999768	.999786	13.91	8.86 (Conc)
36) Ethyl Acetate		-	-	-	-	-	-	-	-	-	-	-
37) Methyl Acrylate		-	-	-	-	-	-	-	-	-	-	-

RF - Response Factor (Subscript is amount in UG/L)

\bar{RF} - Average Response Factor

%RSD - Percent Relative Standard Deviation

CORRn - Coefficient of Correlation (nth degree)

Yintn - Y intercept (nth degree) in UG/L

Calibration Report

Title: Calibration File for 8240 Waters - Instr. HP02700
 Calibrated: 970509 22:54

Files: >DY919 >DY917 >DY914 >DY915 >DY916

Comp No.	Compound	RF 4.00	RF 20.00	RF 50.00	RF 100.00	RF 300.00	\bar{RF}	% RSD	CORR1	CORR2	Yint1	Yint2
38) Methacrylonitrile		.20119	.21040	.19364	.20621	.20968	.20423	3.403	.999915	.999941	4.02	.907 (Conc)
39) Tetrahydrofuran		.17925	.17386	.16825	.19148	.23164	.18890	13.442	.998133	.999886	9.15	1.22
40) Chloroform		2.66939	2.67370	2.64289	2.74798	2.58261	2.66332	2.241	.999753	.999960	-1.77	1.04
41) Cyclohexane		1.18027	1.11631	1.14834	1.22730	1.15346	1.16514	3.564	.999699	.999909	-.931	1.83
42) 1,1-Dichloropropene		1.55374	1.52440	1.55599	1.63994	1.52341	1.55949	3.050	.999619	.999931	-1.72	1.67
43) 1,2-Dichloroethane-d4		1.25767	1.35311	1.48522	1.53379	1.58635	1.44323	9.361	.999946	.999986	2.73	1.54
44) 1,2-Dichloroethane		1.63734	1.60371	1.62191	1.70805	1.63239	1.64068	2.426	.999841	.999948	-.660	1.34
45) Vinyl Acetate		.03679	.04785	.04336	.04802	.04853	.04491	11.116	.999856	.999871	2.10	1.37
46) 2-Butanone		.08250	.08392	.07455	.08163	.07724	.07997	4.906	.999729	.999838	-2.43	1.69 (Conc)
47) 1,1,1-Trichloroethane		.62350	.61493	.64200	.65042	.62121	.63041	2.389	.999851	.999988	-1.27	1.00
48) Carbon Tetrachloride		.59683	.59076	.61076	.63896	.61887	.61123	3.119	.999905	.999963	-.0821	1.38
49) Isobutyl Alcohol		.00446	.00476	.00385	.00410	.00417	.00427	8.203	.999764	.999854	2.11	-29.37 (Conc)
50) Benzene		.69108	.70030	.66274	.68856	.66354	.68124	2.510	.999910	.999966	-1.10	.374
51) Heptane		-	-	-	-	-	-	-	-	-	-	-
52) n-Heptane		.18028	.17427	.18435	.19382	.19131	.18480	4.323	.999949	.999960	.907	1.53
53) Isopropyl Acetate		-	-	-	-	-	-	-	-	-	-	-
54) n-Butanol		.00230	.00314	.00226	.00274	.00287	.00266	14.160	.999241	.999367	55.83	22.36 (Conc)
55) n-Butyl Alcohol		-	-	-	-	-	-	-	-	-	-	(Conc)
56) Trichloroethene		.43732	.43953	.42234	.44245	.42474	.43328	2.103	.999883	.999956	-.965	.711
57) 1,2-Dichloropropane		.35181	.36160	.34846	.35927	.34663	.35355	1.867	.999919	.999978	-1.06	.460
58) Methyl Methacrylate		.14454	.16323	.15174	.16417	.16234	.15720	5.522	.999912	.999913	.808	1.03
59) Dibromomethane		.48349	.49260	.47120	.47683	.47130	.47909	1.896	.999990	.999994	-.548	-.170
60) 1,4-Dioxane		.00162	.00212	.00160	.00172	.00188	.00179	12.117	.999233	.999721	46.07	-24.80 (Conc)
) Monochloroacetone		-	-	-	-	-	-	-	-	-	-	(Conc)
) n-Propyl Acetate		.08782	.09816	.08844	.09686	.09768	.09379	5.538	.999868	.999885	1.58	.787
63) Bromodichloromethane		.80790	.86126	.85039	.86410	.84814	.84636	2.665	.999976	.999995	-.426	.430
64) 2-Nitropropane		.06199	.06961	.06540	.07442	.07460	.06920	8.011	.999806	.999810	4.83	4.03 (Conc)
65) 2-Chloroethyl Vinyl Ether		.13959	.16006	.14774	.17020	.17495	.15851	9.375	.999724	.999789	6.99	3.96 (Conc)
66) Epichlorohydrin		-	-	-	-	-	-	-	-	-	-	-
67) cis-1,3-Dichloropropene		.46779	.52166	.51125	.53447	.53178	.51339	5.277	.999976	.999976	.724	.882
68) trans-1,3-Dichloropropene		.41591	.46729	.47332	.49652	.49780	.47017	7.070	.999977	.999978	1.34	1.26
69) 1,1,2-Trichloroethane		.34454	.35260	.34833	.35820	.34821	.35037	1.490	.999945	.999985	-.610	.624
70) Dibromoethane		.76963	.85500	.85317	.86338	.85796	.83983	4.695	.999995	.999998	.122	.486
71) Bromoform		.60284	.67625	.66285	.68512	.68869	.66315	5.302	.999986	.999988	.902	.624
72) cis-1,4-Dichloro-2-Butene		-	-	-	-	-	-	-	-	-	-	(Conc)
73) trans-1,4-Dichloro-2-Butene		.10702	.12665	.11443	.12403	.12436	.11930	6.970	.999898	.999898	4.56	4.54 (Conc)
74) 4-Methyl-2-Pentanone		.28265	.29316	.27743	.30351	.30505	.29236	4.200	.999893	.999901	3.40	2.29 (Conc)

RF - Response Factor (Subscript is amount in UG/L)

\bar{RF} - Average Response Factor

%RSD - Percent Relative Standard Deviation

CORRn - Coefficient of Correlation (nth degree)

Yintn - Y intercept (nth degree) in UG/L

Calibration Report

Title: Calibration File for 8240 Waters - Instr. HP02700
 Calibrated: 970509 22:54

Comp No.	Compound	Files: >DY919 >DY917 >DY914 >DY915 >DY916					% RSD	CORR1	CORR2	Yint1	Yint2	
		RF 4.00	RF 20.00	RF 50.00	RF 100.00	RF 300.00						
75) Toluene-d8		.82726	.83637	.99005	1.03271	1.11377	.96003	13.046	.999741	.999961	4.87	2.13
76) Toluene		1.02430	1.05559	1.06660	1.08266	1.05342	1.05651	2.026	.999949	.999994	-.668	.647
77) Ethyl Methacrylate		.36029	.46130	.44451	.47636	.48492	.44547	11.234	.999933	.999953	2.15	1.31
78) Tetrachloroethene		.59139	.61566	.60526	.64230	.57363	.60565	4.267	.999140	.999893	-.340	1.88
79) 1,3-Dichloropropane		.61003	.65520	.65781	.66361	.62623	.64258	3.616	.999782	.999994	-.206	.790
80) 2-Hexanone		.16028	.19285	.18321	.20892	.20671	.19040	10.418	.999802	.999804	4.23	4.75 (Conc)
81) Butyl Acetate		-	-	-	-	-	-	-	-	-	-	-
82) 1,2-Dibromoethane		.78227	.87609	.86977	.88866	.86055	.85547	4.930	.999928	.999991	-.748	.795
83) Chlorobenzene		.88896	.92814	.94172	.93845	.89990	.91943	2.576	.999883	.999999	-.162	.502
84) 1,1,1,2-Tetrachloroethane		.55425	.60141	.63575	.63254	.59992	.60477	5.433	.999783	.999995	-.173	1.09
85) Ethylbenzene		.32057	.34213	.36341	.35744	.34322	.34536	4.805	.999856	.999994	-.146	.818
86) m+p-Xylene		.43786	.45728	.46148	.46917	.43913	.45298	3.069	.999716	.999986	-.444	1.97 (Conc)
87) Isoamyl Acetate		-	-	-	-	-	-	-	-	-	-	-
88) Butyl Acrylate		-	-	-	-	-	-	-	-	-	-	-
89) o-Xylene		.40013	.43661	.45273	.45400	.43129	.43495	5.020	.999809	.999996	-.163	1.02
90) Styrene		.68664	.75838	.78655	.80211	.78487	.76371	6.005	.999956	.999993	-.0494	1.13
91) Cumene		-	-	-	-	-	-	-	-	-	-	-
92) Isopropylbenzene		1.21659	1.31395	1.37158	1.41341	1.37215	1.33754	5.706	.999922	.999984	-.124	1.38
93) Cyclohexanone		-	-	-	-	-	-	-	-	-	-	(Conc)
94) 4-Bromofluorobenzene		.82443	.84081	.97919	.92558	.96650	.90730	7.851	.999866	.999902	1.69	.542
95) 1,1,2,2-Tetrachloroethane		.68998	.76910	.73341	.70763	.67561	.71515	5.184	.999845	.999985	-.299	.587
96) Bromobenzene		.59229	.63833	.65070	.64496	.59386	.62403	4.583	.999534	.999997	-.336	.859
97) 1,2,3-Trichloropropane		.16568	.17682	.16690	.17363	.16714	.17003	2.883	.999901	.999964	-.107	.506
98) n-Propylbenzene		1.77264	1.64044	1.72060	1.72851	1.68625	1.70969	2.892	.999952	.999992	-.645	.595
99) 2-Chlorotoluene		.34910	.35388	.36982	.37644	.37172	.36419	3.284	.999979	.999992	.225	.925
100) 1,3,5-Trimethylbenzene		1.07520	1.13494	1.16372	1.17587	1.16271	1.14249	3.544	.999987	.999998	.0327	.672
101) 4-Chlorotoluene		.36003	.39780	.39416	.40571	.38222	.38799	4.581	.999766	.999977	-.174	1.08
102) tert-Butylbenzene		1.39564	1.38098	1.46794	1.50958	1.44909	1.44065	3.665	.999864	.999975	-.596	1.43
103) Pentachloroethane		.37777	.33297	.37824	.44140	.43342	.39276	11.408	.999674	.999695	3.08	3.92
104) bis(2-Chloroethyl)ether		-	-	-	-	-	-	-	-	-	-	-
105) 1,2,4-Trimethylbenzene		1.08240	1.17527	1.20632	1.19728	1.16747	1.16575	4.220	.999948	.999999	-.876	.529
106) sec-Butylbenzene		1.49089	1.54367	1.62550	1.64857	1.64627	1.59098	4.425	.999993	.999995	.678	.919
107) 1,3-Dichlorobenzene		.78600	.85774	.86630	.88721	.84009	.84747	4.521	.999799	.999984	-.151	1.13
108) p-Isopropyltoluene		1.17135	1.19640	1.28065	1.27330	1.24576	1.23349	3.887	.999947	.999993	-.457	.854
109) Dicyclopentadiene		-	-	-	-	-	-	-	-	-	-	-
110) 1,4-Dichlorobenzene		1.00824	1.04286	1.05652	1.08469	1.06661	1.05178	2.731	.999973	.999989	.0298	.817
111) Benzyl Chloride		-	-	-	-	-	-	-	-	-	-	-

RF - Response Factor (Subscript is amount in UG/L)

RF - Average Response Factor

%RSD - Percent Relative Standard Deviation

CORRn - Coefficient of Correlation (nth degree)

Yintn - Y intercept (nth degree) in UG/L

Calibration Report

Title: Calibration File for 8240 Waters - Instr. HP02700
 Calibrated: 970509 22:54

Comp No.	Compound	Files: >DY919 >DY917 >DY914 >DY915 >DY916										
		RF 4.00	RF 20.00	RF 50.00	RF 100.00	RF 300.00	RF	% RSD	CORR1	CORR2	Yint1	Yint2
112) 1,3-Diethylbenzene		-	-	-	-	-	-	-	-	-	-	-
113) 1,4-Diethylbenzene		-	-	-	-	-	-	-	-	-	-	-
114) n-Butylbenzene		1.18472	1.26549	1.31946	1.35570	1.32129	1.28933	5.181	.999939	.999986	-.0518	1.27
115) 1,2-Dichlorobenzene		.85438	.90099	.89942	.89623	.87620	.88545	2.261	.999967	1.00000	-.942	.202
116) 1,2-Diethylbenzene		-	-	-	-	-	-	-	-	-	-	-
117) 1,2-Dibromo-3-Chloropropane		.15669	.19030	.17022	.18123	.19895	.17948	9.260	.999437	.999942	4.33	-.108
118) 1,2,4-Trichlorobenzene		.62211	.62890	.57802	.62685	.62845	.61687	3.547	.999898	.999906	1.17	.604
119) Hexachlorobutadiene		.60746	.55694	.54954	.54002	.48796	.54838	7.783	.999374	.999996	-.4.94	.105
120) Naphthalene		.77096	.81448	.64810	.72053	.75202	.74122	8.390	.999570	.999768	2.19	-.672
121) 1,2,3-Trichlorobenzene		.55373	.55934	.47579	.50110	.47586	.51317	7.983	.999813	.999894	-.2.35	-.502

RF - Response Factor (Subscript is amount in UG/L)

RF - Average Response Factor

%RSD - Percent Relative Standard Deviation

CORRn - Coefficient of Correlation (nth degree)

Yintn - Y intercept (nth degree) in UG/L

LANCASTER LABORATORIES INC.
RUNLOG FOR HEWLETT PACKARD GC/MS SYSTEM #HP02700 (HP1)

First Shift _____

Second Shift MM _____

Third Shift _____

82403 waters ICAL

FILE	SAMPLE	LLI#	DATE	TIME	BATCH	D.F.	NOTES
>DY9T2	BFBAPR09	50nG BFB	05/09/97	13:49	_____	0.00	NU
>DY9T3	BFBAPR09	50nG BFB	05/09/97	14:20	_____	0.00	_____
>DY9I1	VSTD004	004ppb IC	05/09/97	14:48	_____	1.00	NU
>DY9I2	VSTD004	004ppb IC	05/09/97	15:56	_____	1.00	_____
>DY9I3	VSTD010	010ppb IC	05/09/97	16:35	_____	1.00	_____
>DY9I4	VSTD050	050ppb IC	05/09/97	17:09	_____	1.00	_____
>DY9I7	VSTD020	020ppb IC	05/09/97	17:45	_____	1.00	_____
>DY9I5	VSTD100	100ppb IC	05/09/97	18:23	_____	1.00	_____
>DY9I6	VSTD300	300ppb IC	05/09/97	18:57	_____	1.00	NU
>DY9I8	VSTD004	004ppb IC	05/09/97	20:40	_____	1.00	_____
>DY9I9	VSTD004	004ppb IC	05/09/97	21:44	_____	1.00	_____
>DY9XA	TESTBLK	TESTBLK	05/09/97	23:15	D1261	1.00	NU

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: LANCASTER LABS Contract: _____.
 Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
 Lab File ID: >DYCT1 BFB Injection Date: 05/12/97
 Instrument ID: HP02700 BFB Injection Time: 07:52
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.7
75	30.0 - 60.0% of mass 95	46.3
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	.9 (1.1) 1
174	Greater than 50.0% of mass 95	77.7
175	5.0 - 9.0% of mass 174	5.5 (7.1) 1
176	Greater than 95.0%, but less than 101.0% of mass 174	76.6 (98.6) 1
177	5.0 - 9.0% of mass 176	5.8 (7.6) 2

1-Value is % mass 174

2-Value is % mass 176

TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01 VSTD050	050 PPB CC	>DYCS2	05/12/97	09:29
02 VBLKD98✓	VBLKD98✓	>DYCB1✓	05/12/97✓	10:21✓
03 EXP-4✓	2706099✓	>DYC10✓	05/12/97✓	14:32✓
04 EXP-4MS ✓✓	2706099✓	>DYC11✓	05/12/97✓	15:18✓
05 EXP-4MSD	2706099✓	>DYC12✓	05/12/97✓	16:06✓
06 EXP1A✓	2706088✓	>DYC13✓	05/12/97✓	16:59✓
07 EXP1B✓	2706089✓	>DYC14✓	05/12/97✓	17:33✓
08 EXP61✓	2706090✓	>DYC15✓	05/12/97✓	18:20✓
09 EXP61DL✓	2706090✓	>DYC16✓	05/12/97✓	19:11✓
10				
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19				
20				
21				
22				

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance		Status
		Base Peak	Appropriate Peak	
50	15-40% of mass 95	20.68	20.68	Ok
75	30-60% of mass 95	46.26	46.26	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.09	7.09	Ok
173	Less than 2% of mass 174	.89	1.14	Ok
174	Greater than 50% of mass 95	77.68	77.68	Ok
175	5-9% of mass 174	5.49	7.07	Ok
176	95-101% of mass 174	76.63	98.65	Ok
177	5-9% of mass 176	5.81	7.59	Ok

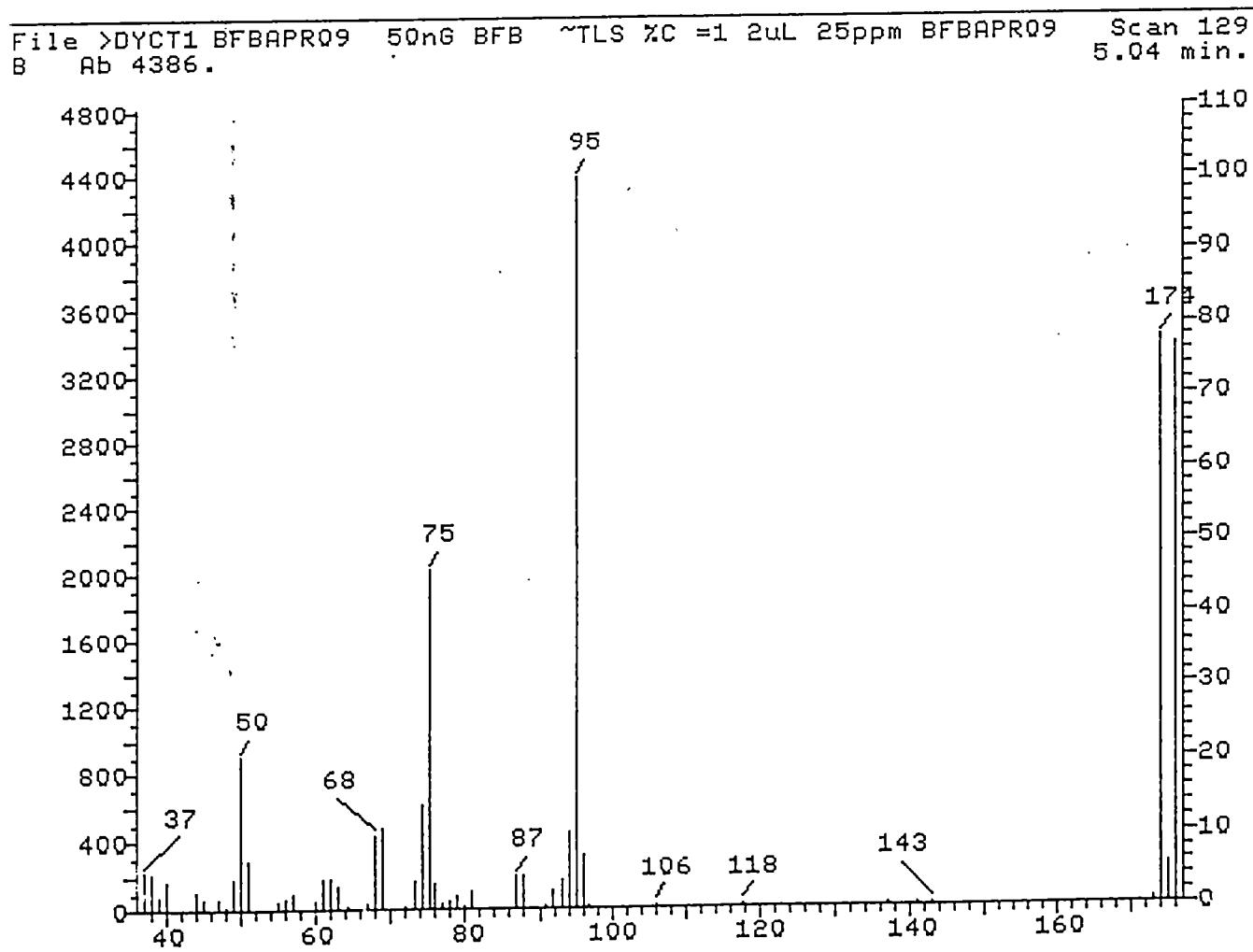
Injection Date: 05/12/97

Injection Time: 07:52

Data File: >DYCT1

Scan: 129

INSTRUMENT HP02700



ANALYSIS DATE/TIME
5/12/97 7:52
INSTRUMENT HP02700

>DYCT1 BFBAPR09 50nG BFB ~TLS %C =1 2uL 25ppm BFBAPR09
129 NRM

File: >DYCT1 Scan #: 129 Retn. time: 5.04

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.05	1.62	51.05	6.50	69.00	10.78	81.00	2.37	106.05	.48
36.95	5.13	55.00	1.00	71.95	.57	86.95	4.45	117.85	.46
37.95	4.65	56.00	1.28	73.05	3.81	88.00	4.42	136.90	.27
39.05	1.80	57.00	2.28	74.05	13.77	90.90	.43	140.95	.30
40.00	3.97	60.05	.93	75.05	46.26	91.90	2.37	143.05	.50
43.90	2.51	61.05	4.20	76.00	3.63	93.00	3.67	173.00	.89
44.90	1.32	62.05	4.13	77.00	.75	94.05	10.28	174.00	77.68
46.95	1.50	62.95	3.08	78.00	1.03	95.05	100.00	175.00	5.49
47.95	.48	64.10	.52	79.00	1.85	96.05	7.09	176.00	76.63
48.95	4.06	66.90	.62	79.90	.55	96.75	.34	177.05	5.81
49.95	20.68	68.00	9.92						

23322., IS THE AREA OF MASS 95

THE MAX SCAN IS 129.00

SUBTRACTED SPECTRA ARE ONE BEFORE OR ONE AFTER PEAK START AND STOP
ENH IS AVERAGE OF MAXIMUM SCAN AND 2 SCANS ON EITHER SIDE

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS

Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
 Instrument ID: HP02700✓ Calibration Date: 05/12/97✓ Time: 0929✓

Lab File ID: >DYCS2✓ Init. Calib. Date(s): 05/09/97 05/09/97

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

Min RRF50 for SPCC(#) = 0.300 (0.10 for Bromoform) Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	2.717	2.062	37.96	50.0	24.1
Chloromethane	# .927	.739	39.83	50.0	20.3#
Vinyl Chloride	* .912	.824	45.18	50.0	9.6*
Bromomethane	1.225	1.046	42.69	50.0	14.6
Chloroethane	.505	.449	44.43	50.0	11.1
Trichlorofluoromethane	2.513	2.043	40.64	50.0	18.7
Ethyl Ether	.484	.420	43.35	50.0	13.3
Acrolein	.087	.079	454.45	500.0	9.1
1,1-Dichloroethene	* .965	.806	41.78	50.0	16.4*
Freon 113	2.319	1.925	41.50	50.0	17.0
Acetone	.141	.130	84.06	100.0	15.9
Methyl Iodide	3.712	3.205	43.17	50.0	13.7
Carbon Disulfide	2.798	2.407	43.01	50.0	14.0
2-Propanol	.024	.020	215.68	250.0	13.7 - NTC
Allyl Chloride	.986	.910	46.14	50.0	7.7
Methylene Chloride	1.116	.898	43.58	50.0	12.8
t-Butyl Alcohol	.061	.052	210.76	250.0	15.7
Acrylonitrile	.142	.122	430.82	500.0	13.8
Methyl t-Butyl Ether	1.758	1.517	43.13	50.0	13.7
trans-1,2-Dichloroethene	.990	.837	42.27	50.0	15.5
n-Hexane	.918	.760	41.39	50.0	17.2
1,1-Dichloroethane	# 1.973	1.664	42.16	50.0	15.7#
2-Chloro-1,3-Butadiene	1.460	1.190	40.74	50.0	18.5
cis-1,2-Dichloroethene	1.112	1.008	45.33	50.0	9.3
Propionitrile	.055	.046	210.53	250.0	15.8 - NTC
Methacrylonitrile	.204	.176	107.58	125.0	13.9
Tetrahydrofuran	.189	.137	36.22	50.0	27.6 - NTC
Chloroform	* 2.663	2.191	41.13	50.0	17.7*
Cyclohexane	1.165	.967	41.52	50.0	17.0
1,2-Dichloroethane	1.641	1.314	40.05	50.0	19.9
Vinyl Acetate	.045	.041	45.69	50.0	8.6 - NTC
2-Butanone	.080	.063	79.32	100.0	20.7
1,1,1-Trichloroethane	.630	.468	37.13	50.0	25.7 - 1/u
Carbon Tetrachloride	.611	.456	37.30	50.0	25.4 - OK

Exp-A
EXP1A
EXP1B
EXP61

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.
 Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
 Instrument ID: HP02700 Calibration Date: 05/12/97 Time: 0929
 Lab File ID: >DYCS2 Init. Calib. Date(s): 05/09/97 05/09/97
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP
 Min RRF50 for SPCC(#) = 0.300 (0.10 for Bromoform) Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Isobutyl Alcohol	.004	.003	464.56	625.0	25.7 NTC
Benzene	.681	.580	42.56	50.0	14.9
n-Heptane	.185	.141	38.21	50.0	23.6
n-Butanol	.003	.002	549.54	625.0	12.1 NTC
Trichloroethene	.433	.349	40.27	50.0	19.5
1,2-Dichloropropane	* .354	.294	41.61	50.0	16.8*
Methyl Methacrylate	.157	.135	42.98	50.0	14.0
Dibromomethane	.479	.382	39.84	50.0	20.3
1,4-Dioxane	.002	.002	636.36	625.0	-1.8 NTC
n-Propyl Acetate	.094	.080	42.42	50.0	15.2
Bromodichloromethane	.846	.677	39.97	50.0	20.1
2-Nitropropane	.069	.055	79.79	100.0	20.2
2-Chloroethyl Vinyl Ether	.159	.120	75.42	100.0	24.6
cis-1,3-Dichloropropene	.513	.423	41.17	50.0	17.7
trans-1,3-Dichloropropene	.470	.382	40.67	50.0	18.7
1,1,2-Trichloroethane	.350	.295	42.15	50.0	15.7
Dibromochloromethane	.840	.667	39.69	50.0	20.6
Bromoform	# .663	.527	39.74	50.0	20.5#
trans-1,4-Dichloro-2-Butene	.119	.090	94.36	125.0	24.5
4-Methyl-2-Pentanone	.292	.235	80.26	100.0	19.7
Toluene	* 1.057	.859	40.65	50.0	18.7*
Ethyl Methacrylate	.445	.388	43.59	50.0	12.8
Tetrachloroethene	.606	.458	37.85	50.0	24.3
2-Hexanone	.190	.160	84.10	100.0	15.9
1,2-Dibromoethane	.855	.717	41.92	50.0	16.2
Chlorobenzene	# .919	.780	42.44	50.0	15.1#
1,1,1,2-Tetrachloroethane	.605	.516	42.64	50.0	14.7
Ethylbenzene	* .345	.299	43.23	50.0	13.5*
m+p-Xylene	.453	.381	84.17	100.0	15.8
o-Xylene	.435	.370	42.53	50.0	14.9
Styrene	.764	.649	42.51	50.0	15.0
Isopropylbenzene	1.338	1.092	40.81	50.0	18.4
1,1,2,2-Tetrachloroethane	# .715	.637	44.53	50.0	10.9#
1,2,3-Trichloropropane	.170	.139	40.83	50.0	18.3

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS

Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP02700 Calibration Date: 05/12/97 Time: 0929

Lab File ID: >DYCS2 Init. Calib. Date(s): 05/09/97 05/09/97

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

Min RRF50 for SPCC(#) = 0.300 (0.10 for Bromoform) Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Pentachloroethane	.393	.440	55.98	50.0	-12.0
1,3-Dichlorobenzene	.847	.742	43.79	50.0	12.4
1,4-Dichlorobenzene	1.052	.844	40.15	50.0	19.7
1,2-Dichlorobenzene	.885	.734	41.45	50.0	17.1
1,2-Dibromo-3-Chloropropane	.179	.134	37.34	50.0	25.3
1,2-Dichloroethane-d4	1.443	1.400	48.51	50.0	3.0
Toluene-d8	.960	.952	49.60	50.0	.8
4-Bromofluorobenzene	.907	.933	51.41	50.0	-2.8

OK

page 3 of 3

FORM VII VOA

1/87 Rev.

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS

Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Lab File ID (Standard): >DYCS2

Date Analyzed: 05/12/97

Instrument ID: HP02700

Time Analyzed: 09:29

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (BCM) AREA #	RT	IS2 (DFB) AREA #	RT	IS3 (CBZ) AREA #	RT
12 HOUR STD	46789✓	8.86	170013✓	10.38	127887✓	14.46
UPPER LIMIT	93578		340026		255774	
LOWER LIMIT	23395		85007		63944	
EPA SAMPLE NO.						
01 VBLKD98✓	41951✓	8.86	140983✓	10.35	112518✓	14.47✓
02 EXP-4✓	36346✓	8.88✓	126843✓	10.37✓	101649✓	14.46✓
03 EXP-4MS✓	37946✓	8.86✓	128405✓	10.36✓	96896✓	14.46✓
04 EXP-4MSD✓	38222✓	8.87✓	130280✓	10.35✓	96282✓	14.45✓
05 EXP1A✓	38935✓	8.85✓	130665✓	10.37✓	103968✓	14.47✓
06 EXP1B✓	39313✓	8.88✓	131984✓	10.36✓	107035✓	14.47✓
07 EXP61✓	37499✓	8.87✓	127416✓	10.35✓	102024✓	14.45✓
08 EXP61DL✓	36996✓	8.87✓	125741✓	10.37✓	100906✓	14.46✓
09						
10						
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19						
20						
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22						

IS1 (BCM) = Bromochloromethane
 IS2 (DFB) = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag internal standard area values with an asterisk.

LANCASTER LABORATORIES INC.
RUNLOG FOR HEWLETT PACKARD GC/MS SYSTEM #HP02700 (HP1)

* _____ First Shift _____

THS

* _____ Second Shift _____

RLM

* _____ Third Shift _____

824103 waters

FILE	SAMPLE	LLI#	DATE	TIME	BATCH	D.F.	NOTES
>DYCT1	BFBAPR09	50nG BFB	05/12/97	07:52	_____	0.00	_____
>DY8B3	VBLKD95	VBLKD95	05/08/97	15:01	D1281	1.00	<u>REPROCESSED</u>
>DYCS1	VSTD050	050 PPB CC	05/12/97	08:16	_____	1.00	<u>NJ</u>
>DYCS2	VSTD050	050 PPB CC	05/12/97	09:29	_____	1.00	_____
>DYCB1	VBLKD98	VBLKD98	05/12/97	10:21	D1321	1.00	_____
>DYC01	EQB-2	2703043	05/12/97	11:00	D1321	1.00	_____
>DYC02	T8K-2	2703045	05/12/97	12:03	D1321	1.00	_____
>DYC03	89XXX	2702480	05/12/97	12:57	D1261	1.00	_____
>DYC03	89XXX	2702490	05/12/97	12:57	D1261	1.00	REPROCESSED!
>DYC04	59XXX	2702479	05/12/97	13:39	D1261	1.00	_____
>DYC10	EXP-4	2706099	05/12/97	14:32	D1321	1.00	_____
>DYC11	EXP-4MS	2706099	05/12/97	15:18	D1321	1.00	_____
>DYC12	EXP-4MSD	2706099	05/12/97	16:06	D1321	1.00	_____
>DYC13	EXP1A	2706088	05/12/97	16:59	D1321	1.00	_____
>DYC14	EXP1B	2706089	05/12/97	17:33	D1321	1.00	_____
>DYC15	EXP61	2706090	05/12/97	18:20	D1321	1.00	_____
>DYC16	EXP61DL	2706090	05/12/97	19:11	D1321	2.50	_____

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >DYET1 BFB Injection Date: 05/14/97

Instrument ID: HP02700 BFB Injection Time: 04:14

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	23.3
75	30.0 - 60.0% of mass 95	51.6
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	82.7
175	5.0 - 9.0% of mass 174	5.4 (6.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.8 (98.9)1
177	5.0 - 9.0% of mass 176	5.4 (6.6)2

1-Value is % mass 174

2-Value is % mass 176

TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01 VSTD050	050 PPB CC	>DYES1	05/14/97	04:51
02 VBLKD04✓	VBLKD04✓	>DYE02✓	05/14/97✓	06:34✓
03 EXP62✓	2706091✓	>DYE05✓	05/14/97✓	11:05✓
04 EXP62DL✓	2706091✓	>DYE06✓	05/14/97✓	12:14✓
05 EXP-7✓	2706092✓	>DYE07✓	05/14/97✓	13:04✓
06 EXP10✓	2706093✓	>DYE08✓	05/14/97✓	13:45✓
07 EXP11✓	2706094✓	>DYE10✓	05/14/97✓	15:22✓
08 EXTBL1✓	2706095✓	>DYE11✓	05/14/97✓	16:09✓
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance		Status
		Base Peak	Appropriate Peak	
50	15-40% of mass 95	23.29	23.29	Ok
75	30-60% of mass 95	51.62	51.62	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.26	6.26	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	82.73	82.73	Ok
175	5-9% of mass 174	5.39	6.51	Ok
176	95-101% of mass 174	81.79	98.87	Ok
177	5-9% of mass 176	5.42	6.63	Ok

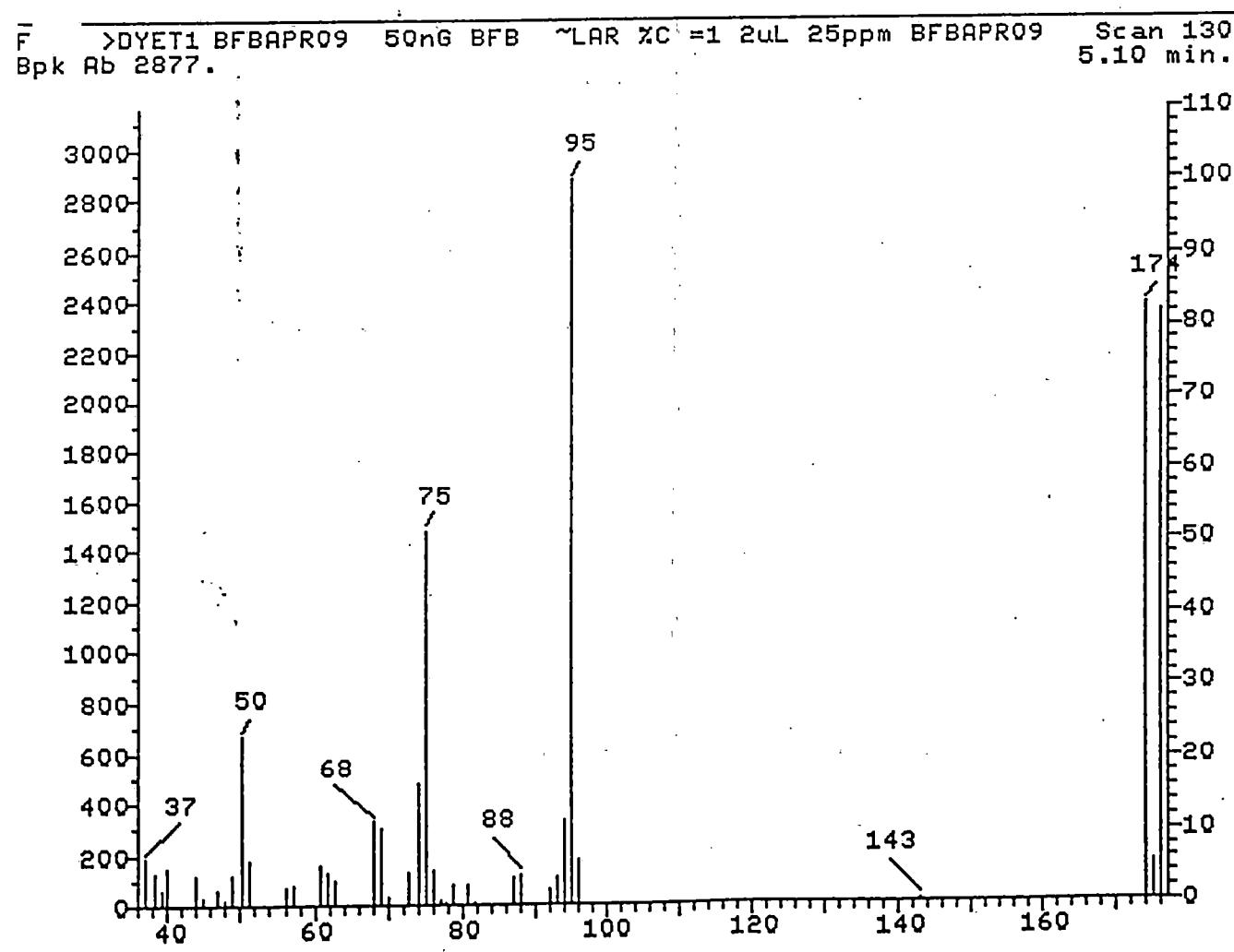
Injection Date: 05/14/97

Injection Time: 04:14

Data File: >DYET1

Scan: 130

INSTRUMENT HP02700



ANALYSIS DATE/TIME
5/14/97 4:14
INSTRUMENT HP02700

>DYET1 BFBAPR09 50nG BFB ~LAR %C =1 2uL 25ppm BFBAPR09
130 NRM

File: >DYET1 Scan #: 130 Retn. time: 5.10

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
35.95	1.32	48.95	4.10	68.00	11.57	77.70	.52	94.05	11.54
36.95	6.47	50.05	23.29	69.00	10.43	78.90	2.64	95.05	100.00
38.05	4.41	51.05	6.15	70.05	1.15	80.90	2.92	96.05	6.26
39.05	2.09	56.00	2.33	72.95	4.55	81.85	.56	142.95	.59
40.00	5.21	57.00	2.68	74.05	16.68	86.95	3.89	174.00	82.73
44.00	4.14	60.95	5.39	75.05	51.62	88.00	4.24	175.00	5.39
45.00	.94	61.95	4.48	76.00	4.76	92.00	2.02	176.00	81.79
46.95	2.02	62.95	3.48	77.00	.83	93.00	3.82	177.05	5.42
47.95	.80								

1 19., IS THE AREA OF MASS 95

T MAX SCAN IS 131.00

SUBTRACTED SPECTRA ARE ONE BEFORE OR ONE AFTER PEAK START AND STOP
ENH IS AVERAGE OF MAXIMUM SCAN AND 2 SCANS ON EITHER SIDE

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS

Contract: _____

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Instrument ID: HP02700 Calibration Date: 05/14/97 Time: 0451✓

Lab File ID: >DYES1✓ Init. Calib. Date(s): 05/09/97 05/09/97

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

Min RRF50 for SPCC(#= 0.300 (0.10 for Bromoform) Max %Drift for CCC(*)= 20.0%

COMPOUND	RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	2.717	2.291	42.17	50.0	15.7
Chloromethane	# .927	.810	43.70	50.0	12.6#
Vinyl Chloride	* .912	.892	48.94	50.0	2.1*
Bromomethane	1.225	1.121	45.76	50.0	8.5
Chloroethane	.505	.462	45.79	50.0	8.4
Trichlorofluoromethane	2.513	2.408	47.90	50.0	4.2
Ethyl Ether	.484	.478	49.38	50.0	1.2
Acrolein	.087	.092	530.29	500.0	-6.1
1,1-Dichloroethene	* .965	.941	48.76	50.0	2.5*
Freon 113	2.319	2.299	49.56	50.0	.9
Acetone	.141	.165	105.62	100.0	-5.6
Methyl Iodide	3.712	3.628	48.87	50.0	2.3
Carbon Disulfide	2.798	2.693	48.13	50.0	3.7
2-Propanol	.024	.025	268.27	250.0	-7.3
Allyl Chloride	.986	1.011	51.27	50.0	-2.5
Methylene Chloride	1.116	1.000	48.74	50.0	2.5
t-Butyl Alcohol	.061	.067	275.58	250.0	-10.2
Acrylonitrile	.142	.148	521.34	500.0	-4.3
Methyl t-Butyl Ether	1.758	1.775	50.48	50.0	-1.0
trans-1,2-Dichloroethene	.990	.961	48.51	50.0	3.0
n-Hexane	.918	.856	46.61	50.0	6.8
1,1-Dichloroethane	# 1.973	1.879	47.63	50.0	4.7#
2-Chloro-1,3-Butadiene	1.460	1.427	48.85	50.0	2.3
cis-1,2-Dichloroethene	1.112	1.111	49.94	50.0	.1
Propionitrile	.055	.056	255.84	250.0	-2.3
Methacrylonitrile	.204	.209	127.96	125.0	-2.4
Tetrahydrofuran	.189	.213	56.50	50.0	-13.0
Chloroform	* 2.663	2.505	47.02	50.0	6.0*
Cyclohexane	1.165	1.147	49.24	50.0	1.5
1,2-Dichloroethane	1.641	1.519	46.29	50.0	7.4
Vinyl Acetate	.045	.055	61.13	50.0	-22.3
2-Butanone	.080	.086	107.20	100.0	-7.2
1,1,1-Trichloroethane	.630	.614	48.67	50.0	2.7
Carbon Tetrachloride	.611	.587	48.00	50.0	4.0

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS

Contract: _____

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP02700 Calibration Date: 05/14/97 Time: 0451

Lab File ID: >DYES1 Init. Calib. Date(s): 05/09/97 05/09/97

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

Min RRF50 for SPCC(#) = 0.300 (0.10 for Bromoform) Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Isobutyl Alcohol	.004	.005	665.06	625.0	-6.4 NTC
Benzene	.681	.674	49.48	50.0	1.0
n-Heptane	.185	.194	52.59	50.0	-5.2
n-Butanol	.003	.003	652.89	625.0	-4.5 NTC
Trichloroethene	.433	.425	48.99	50.0	2.0
1,2-Dichloropropane	* .354	.341	48.17	50.0	3.7*
Methyl Methacrylate	.157	.177	56.43	50.0	-12.9
Dibromomethane	.479	.472	49.22	50.0	1.6
1,4-Dioxane	.002	.002	823.51	625.0	-31.8 NTC
n-Propyl Acetate	.094	.107	56.84	50.0	-13.7
Bromodichloromethane	.846	.815	48.12	50.0	3.8
2-Nitropropane	.069	.076	109.99	100.0	-10.0
2-Chloroethyl Vinyl Ether	.159	.174	109.61	100.0	-9.6
cis-1,3-Dichloropropene	.513	.502	48.92	50.0	2.2
trans-1,3-Dichloropropene	.470	.473	50.25	50.0	-.5
1,1,2-Trichloroethane	.350	.361	51.46	50.0	-2.9
Dibromochloromethane	.840	.836	49.77	50.0	.5
Bromoform	# .663	.649	48.91	50.0	2.2#
trans-1,4-Dichloro-2-Butene	.119	.119	125.01	125.0	-.0
4-Methyl-2-Pentanone	.292	.332	113.70	100.0	-13.7
Toluene	* 1.057	1.056	50.00	50.0	.0*
Ethyl Methacrylate	.445	.485	54.40	50.0	-8.8
Tetrachloroethene	.606	.560	46.25	50.0	7.5
2-Hexanone	.190	.216	113.43	100.0	-13.4
1,2-Dibromoethane	.855	.875	51.14	50.0	-2.3
Chlorobenzene	# .919	.918	49.91	50.0	.2#
1,1,1,2-Tetrachloroethane	.605	.612	50.57	50.0	-1.1
Ethylbenzene	* .345	.353	51.16	50.0	-2.3*
m+p-Xylene	.453	.451	99.57	100.0	.4
o-Xylene	.435	.431	49.50	50.0	1.0
Styrene	.764	.776	50.80	50.0	-1.6
Isopropylbenzene	1.338	1.320	49.35	50.0	1.3
1,1,2,2-Tetrachloroethane	# .715	.794	55.49	50.0	-11.0#
1,2,3-Trichloropropane	.170	.177	52.02	50.0	-4.0

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS

Contract: _____

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP02700 Calibration Date: 05/14/97 Time: 0451

Lab File ID: >DYES1 Init. Calib. Date(s): 05/09/97 05/09/97

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

Min RRF50 for SPCC(#) = 0.300 (0.10 for Bromoform) Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Pentachloroethane	.393	.503	64.03	50.0	-28.1
1,3-Dichlorobenzene	.847	.859	50.67	50.0	-1.3
1,4-Dichlorobenzene	1.052	1.007	47.85	50.0	4.3
1,2-Dichlorobenzene	.885	.854	48.22	50.0	3.6
1,2-Dibromo-3-Chloropropane	.179	.181	50.37	50.0	-.7
1,2-Dichloroethane-d4	1.443	1.450	50.23	50.0	-.5
Toluene-d8	.960	.960	50.01	50.0	-.0
4-Bromofluorobenzene	.907	.975	53.71	50.0	-7.4

page 3 of 3

FORM VII VOA

1/87 Rev.

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS

Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____ SDG No.: _____.

Lab File ID (Standard): >DYYES1 Date Analyzed: 05/14/97

Instrument ID: HP02700 Time Analyzed: 04:51

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (BCM) AREA #	RT	IS2 (DFB) AREA #	RT	IS3 (CBZ) AREA #	RT
12 HOUR STD	36631✓	8.84✓	123056✓	10.35✓	93429✓	14.45✓
UPPER LIMIT	73262		246112		186858	
LOWER LIMIT	18316		61528		46715	
EPA SAMPLE NO.						
01 VBLKD04✓	34858✓	8.85✓	119658✓	10.35✓	96749✓	14.45✓
02 EXP62✓	33385✓	8.85✓	115395✓	10.35✓	92486✓	14.46✓
^3 EXP62DI✓	34738✓	8.85✓	118761✓	10.35✓	93941✓	14.45✓
4 EXP-7✓	33582✓	8.85✓	111712✓	10.34✓	91954✓	14.44✓
05 EXP10✓	33223✓	8.86✓	113891✓	10.35✓	90124✓	14.46✓
06 EXP11✓	31943✓	8.85✓	108316✓	10.34✓	87081✓	14.46✓
07 EXTBI✓	32694✓	8.85✓	111329✓	10.35✓	90070✓	14.46✓
08						
09						
10						
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19						
20						
21						
22						

IS1 (BCM) = Bromochloromethane
 IS2 (DFB) = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag internal standard area values with an asterisk.

LANCASTER LABORATORIES INC.
RUNLOG FOR HEWLETT PACKARD GC/MS SYSTEM #HP02700 (HP1)

* _____ First Shift _____ *
 * _____

* _____ Second Shift _____ *
 * _____

* _____ Third Shift _____ *
 * _____

* 824 φB waters
 * _____
 * _____
 * _____
 * _____
 * _____
 * _____
 * _____

FILE	SAMPLE	LLI#	DATE	TIME	BATCH	D.F.	NOTES
>DYE01	BFBAPRUV	50nG CH-H	05/14/97	04:14		0.00	
>DYE01	VSTD050	050 PPB CC	05/14/97	04:51		1.00	
>DYE01	VBLKD04	VBLKD04	05/14/97	05:44	D1321	1.00	NU
>DYE02	VBLKD04	VBLKD04	05/14/97	06:34	D1321	1.00	
>DYE01	10XXX	2702481	05/14/97	07:37	D1321	1.00	
>DYE02	48XXX	2702476	05/14/97	08:28	D1321	1.00	
>DYE03	97XXX	2702477	05/14/97	09:17	D1321	1.00	
>DYE04	70XXX	2702478	05/14/97	10:09	D1321	1.00	
>DYE05	EXP62	2706091	05/14/97	11:05	D1321	1.00	
>DYE06	EXP62DL	2706091	05/14/97	12:14	D1321	5.00	
>DYE07	EXP-7	2706092	05/14/97	13:04	D1321	1.00	
>DYE08	EXP10	2706093	05/14/97	13:45	D1321	1.00	
>DYE02	VBLKD04	VBLKD04	05/14/97	06:34	D1341	1.00	REPLACED
>DYE09	EXP11	2706094	05/14/97	14:34	D1321	1.00	NU
>DYE10	EXP11	2706094	05/14/97	15:22	D1321	1.00	
>DYE11	EXT81	2706095	05/14/97	16:09	D1321	1.00	

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: LANCASTER LABS

Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Lab File ID: >DYET2 BFB Injection Date: 05/14/97

Instrument ID: HP02700 BFB Injection Time: 17:04

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.4
75	30.0 - 60.0% of mass 95	49.2
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	79.5
175	5.0 - 9.0% of mass 174	5.7 (7.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.8 (100.4)1
177	5.0 - 9.0% of mass 176	5.9 (7.4)2

1-Value is % mass 174

2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01 VSTD050 ✓	050 PPB CC	>DYES3 ✓	05/14/97	18:25
02 VBLKD05 ✓	VBLKD05 ✓	>DYEB3 ✓	05/14/97 ✓	19:24 ✓
03 EXEB1 ✓	2706096 ✓	>DYE12 ✓	05/14/97 ✓	20:07 ✓
04 EXP2A ✓	2706097 ✓	>DYE13 ✓	05/14/97 ✓	20:48 ✓
05 EXP2ADL ✓	2706097 ✓	>DYE14 ✓	05/14/97 ✓	21:33 ✓
06 EXP2B ✓	2706098 ✓	>DYE15 ✓	05/14/97 ✓	22:26 ✓
07 EXP2BDL ✓	2706098 ✓	>DYE16 ✓	05/15/97 ✓	01:06 ✓
08 EXP-5 ✓	2706100 ✓	>DYE17 ✓	05/15/97 ✓	01:42 ✓
09 EXP-9 ✓	2706101 ✓	>DYE18 ✓	05/15/97 ✓	02:17 ✓
10 EXEB2 ✓	2706102 ✓	>DYE19 ✓	05/15/97 ✓	02:52 ✓
11 EXP3A ✓	2706103 ✓	>DYE20 ✓	05/15/97 ✓	03:26 ✓
12 EXP3B ✓	2706104 ✓	>DYE21 ✓	05/15/97 ✓	04:02 ✓
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance		Status
		Base Peak	Appropriate Peak	
50	15-40% of mass 95	19.42	19.42	Ok
75	30-60% of mass 95	49.20	49.20	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.51	6.51	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	79.46	79.46	Ok
175	5-9% of mass 174	5.73	7.21	Ok
176	95-101% of mass 174	79.80	100.42	Ok
177	5-9% of mass 176	5.91	7.41	Ok

Injection Date: 05/14/97

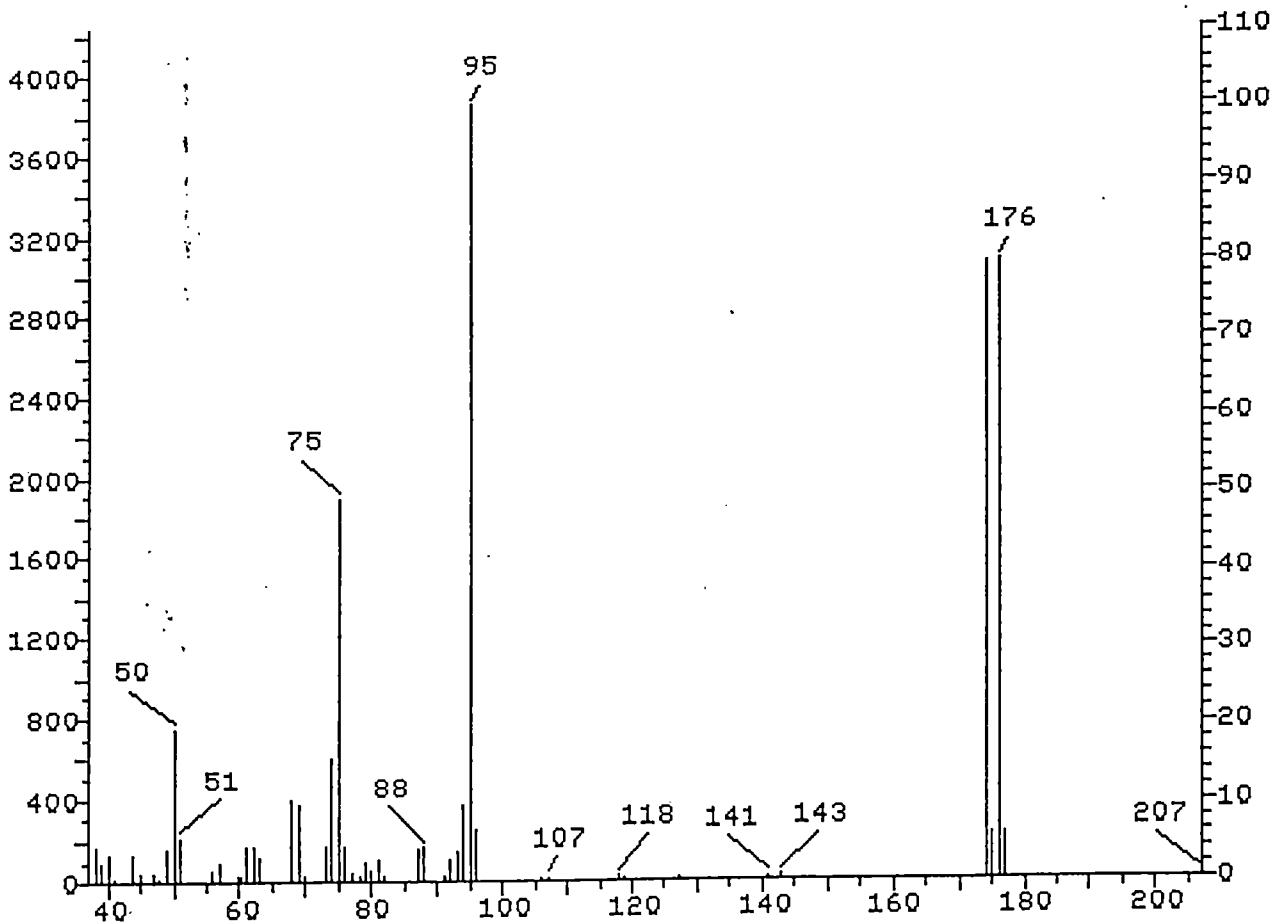
Injection Time: 17:04

Data File: >DYET2

Scan: 124

INSTRUMENT HP02700

File >DYET2 BFBAPR09 50nG BFB ~RRM XC =1 2uL 25ppm BFBAPR09 Scan 124
P-Ab 3856. 4.99 min.



ANALYSIS DATE/TIME
5/14/97 17:04
INSTRUMENT HP02700

>DYET2 BFBAPR09 50nG BFB ~RRM %C =1 2uL 25ppm BFBAPR09
124 NRM

File: >DYET2 Scan #: 124 Retn. time: 4.99

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.05	5.99	50.95	5.50	73.05	4.33	86.95	4.18	117.85	.62
38.05	4.36	56.00	1.58	74.05	15.51	88.00	4.33	118.85	.47
39.05	2.57	57.00	2.46	75.05	49.20	91.00	.65	127.40	.29
40.00	3.63	59.95	.75	76.00	4.49	92.00	2.70	140.80	.44
41.00	.52	60.25	.67	77.00	1.01	93.00	3.76	142.95	.65
43.90	3.35	60.95	4.38	78.10	.60	94.05	9.44	174.00	79.46
45.00	1.12	62.05	4.38	78.90	2.44	95.05	100.00	175.00	5.73
46.95	1.01	62.95	3.16	80.00	1.40	96.05	6.51	176.00	79.80
47.75	.52	68.00	10.19	80.90	2.93	105.85	.31	177.05	5.91
49.05	4.10	69.00	9.49	81.95	.86	107.05	.47	207.20	.41
50.05	19.42	70.05	.73						

: 22., IS THE AREA OF MASS 95
MAX SCAN IS 125.00

SUBTRACTED SPECTRA ARE ONE BEFORE OR ONE AFTER PEAK START AND STOP
ENH IS AVERAGE OF MAXIMUM SCAN AND 2 SCANS ON EITHER SIDE

7A
VOLATILE CONTINUING CALIBRATION CHECK

a Name: LANCASTER LABS Contract: _____
 ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
 nstrument ID: HP02700 Calibration Date: 05/14/97 ✓ Time: 1825
 ab File ID: >DYES3✓ Init. Calib. Date(s): 05/09/97 05/09/97
 atrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP
 in RRF50 for SPCC(#) = 0.300 (0.10 for Bromoform) Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Chloromethane✓	# .927	.813	43.84	50.0	12.3#
Vinyl Chloride✓	* .912	.889	48.75	50.0	2.5*
Bromomethane✓	1.225	1.149	46.93	50.0	6.1
Chloroethane✓	.505	.489	48.41	50.0	3.2
Acrolein✓	.087	.096	555.76	500.0	-11.2
1,1-Dichloroethene✓	* .965	.982	50.88	50.0	-1.8*
Methylene Chloride✓	1.116	1.038	50.63	50.0	-1.3
Acrylonitrile✓	.142	.159	561.08	500.0	-12.2
trans-1,2-Dichloroethene✓	.990	1.005	50.75	50.0	-1.5
1,1-Dichloroethane✓	# 1.973	1.947	49.34	50.0	1.3#
cis-1,2-Dichloroethene✓	1.112	1.150	51.72	50.0	-3.4
Chloroform✓	* 2.663	2.582	48.48	50.0	3.0*
1,2-Dichloroethane✓	1.641	1.574	47.96	50.0	4.1
1,1,1-Trichloroethane✓	.630	.619	49.12	50.0	1.8
Carbon Tetrachloride✓	.611	.599	48.98	50.0	2.0
Benzene✓	.681	.688	50.50	50.0	-1.0
Trichloroethene✓	.433	.432	49.81	50.0	.4
1,2-Dichloropropane✓	* .354	.352	49.71	50.0	.6*
Bromodichloromethane✓	.846	.831	49.09	50.0	1.8
2-Chloroethyl Vinyl Ether✓	.159	.140	88.55	100.0	11.4
cis-1,3-Dichloropropene✓	.513	.521	50.70	50.0	-1.4
trans-1,3-Dichloropropene✓	.470	.477	50.74	50.0	-1.5
1,1,2-Trichloroethane✓	.350	.371	53.01	50.0	-6.0
Dibromochloromethane✓	.840	.853	50.81	50.0	-1.6
Bromoform✓	# .663	.699	52.73	50.0	-5.5#
Toluene✓	* 1.057	1.060	50.18	50.0	-.4*
Tetrachloroethene✓	.606	.563	46.48	50.0	7.0
Chlorobenzene✓	# .919	.940	51.11	50.0	-2.2#
Ethylbenzene✓	* .345	.368	53.35	50.0	-6.7*
1,1,2,2-Tetrachloroethane✓	# .715	.847	59.20	50.0	-18.4#
1,2-Dichloroethane-d4	1.443	1.447	50.13	50.0	-.3
Toluene-d8	.960	.978	50.95	50.0	-1.9
4-Bromofluorobenzene	.907	.977	53.84	50.0	-7.7

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: ____.

Lab Code: LANCAS Case No.: ____ SAS No.: ____ SDG No.: ____.

Lab File ID (Standard): >DYES3 Date Analyzed: 05/14/97

Instrument ID: HP02700 Time Analyzed: 18:25

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (BCM) AREA #	RT	IS2 (DFB) AREA #	RT	IS3 (CBZ) AREA #	RT
12 HOUR STD	38051✓	8.86	130306	10.37	99135✓	14.46
UPPER LIMIT	76102		260612		198270	
LOWER LIMIT	19026		65153		49568	
EPA SAMPLE NO.						
01 VBLKD05✓	39649✓	8.85	134582✓	10.34	108693✓	14.45✓
02 EXEB1✓	39176✓	8.85✓	132639✓	10.35✓	107614✓	14.46✓
^3 EXP2A✓	39327✓	8.85✓	133222✓	10.36✓	107253✓	14.45✓
4 EXP2ADL✓	39267✓	8.87✓	132260✓	10.35✓	104885✓	14.47✓
05 EXP2B✓	39325✓	8.85✓	126075✓	10.35✓	104558✓	14.46✓
06 EXP2BDL✓	36566✓	8.85✓	123166✓	10.34✓	99354✓	14.45✓
07 EXP-5✓	34637✓	8.86✓	124243✓	10.35✓	97614✓	14.44✓
08 EXP-9✓	35747✓	8.87✓	121758✓	10.36✓	97634✓	14.45✓
09 EXEB2✓	35094✓	8.86✓	118263✓	10.35✓	94161✓	14.46✓
10 EXP3A✓	36450✓	8.87✓	119775✓	10.34✓	93633✓	14.45✓
11 EXP3B✓	36889✓	8.86✓	126147✓	10.34✓	100937✓	14.45✓
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (BCM) = Bromochloromethane
 IS2 (DFB) = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag internal standard area values with an asterisk.

LANCASTER LABORATORIES INC.
RUNLOG FOR HEWLETT PACKARD GC/MS SYSTEM #HP02700 (HP1)

* _____ First Shift _____ *

* _____ Second Shift RRM _____ *

* _____ Third Shift LAR _____ *

8240 DERS

FILE	SAMPLE	LLI#	DATE	TIME	BATCH	D.F.	NOTES
>DYET2	BFBAPR09	50nG BFB	05/14/97	17:04	_____	0.00	_____.
>DYES2	VSTD050	050 PPB CC	05/14/97	17:27	_____	1.00	NU _____.
>DYES3	VSTD050	050 PPB CC	05/14/97	18:25	_____	1.00	_____.
>DYE83	VBLKD05	VBLKD05	05/14/97	19:24	D1321	1.00	_____.
>DYE12	EXEB1	2706096	05/14/97	20:07	D1321	1.00	_____.
>DYE13	EXP2A	2706097	05/14/97	20:48	D1321	1.00	_____.
>DYE14	EXP2ADL	2706097	05/14/97	21:33	D1321	2.50	_____.
>DYE15	EXP2B	2706098	05/14/97	22:26	D1321	5.00	_____.
>DYEX1	CLEAN	BLANK	05/14/97	23:40	D1321	5.00	NU _____.
>DYEX2	CLEAN	BLANK	05/15/97	00:28	D1321	5.00	NU _____.
>DYE16	EXP2BDL	2706098	05/15/97	01:06	D1321	40.00	_____.
>DYE17	EXP-5	2706100	05/15/97	01:42	D1321	1.00	_____.
>DYE18	EXP-9	2706101	05/15/97	02:17	D1321	1.00	_____.
>DYE19	EXEB2	2706102	05/15/97	02:52	D1321	1.00	_____.
>DYE20	EXP3A	2706103	05/15/97	03:26	D1321	1.00	_____.
>DYE21	EXP3B	2706104	05/15/97	04:02	D1321	1.00	_____.
>DYEX3	CLEAN	BLANK98	05/15/97	04:33	D1321	40.00	NU _____.
>DYEX4	CLEAN	BLANK98	05/15/97	05:28	D1321	40.00	NU _____.

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: LANCASTER LABS

Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >DYFT3

BFB Injection Date: 05/15/97

Instrument ID: HP02700

BFB Injection Time: 11:36

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.9
75	30.0 - 60.0% of mass 95	49.8
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	7.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	75.3
175	5.0 - 9.0% of mass 174	5.5 (7.3)1
176	Greater than 95.0%, but less than 101.0% of mass 174	72.5 (96.2)1
177	5.0 - 9.0% of mass 176	5.1 (7.0)2

1-Value is % mass 174

2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01 VSTD050	050 PPB CC	>DYFS4	05/15/97	11:53
02 VBLKD06✓	VBLKD06✓	>DYFB2✓	05/15/97✓	13:44✓
03 EXP3BDL✓	2706104✓	>DYF01✓	05/15/97✓	14:34✓
04 EXP-8 ✓	2706105✓	>DYF02✓	05/15/97✓	16:13✓
05 EXEB3 ✓	2706106✓	>DYF03✓	05/15/97✓	17:00✓
06				
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22				

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance		Status
		Base Peak	Appropriate Peak	
50	15-40% of mass 95	20.87	20.87	Ok
75	30-60% of mass 95	49.76	49.76	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.32	7.32	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	75.31	75.31	Ok
175	5-9% of mass 174	5.50	7.31	Ok
176	95-101% of mass 174	72.48	96.24	Ok
177	5-9% of mass 176	5.06	6.98	Ok

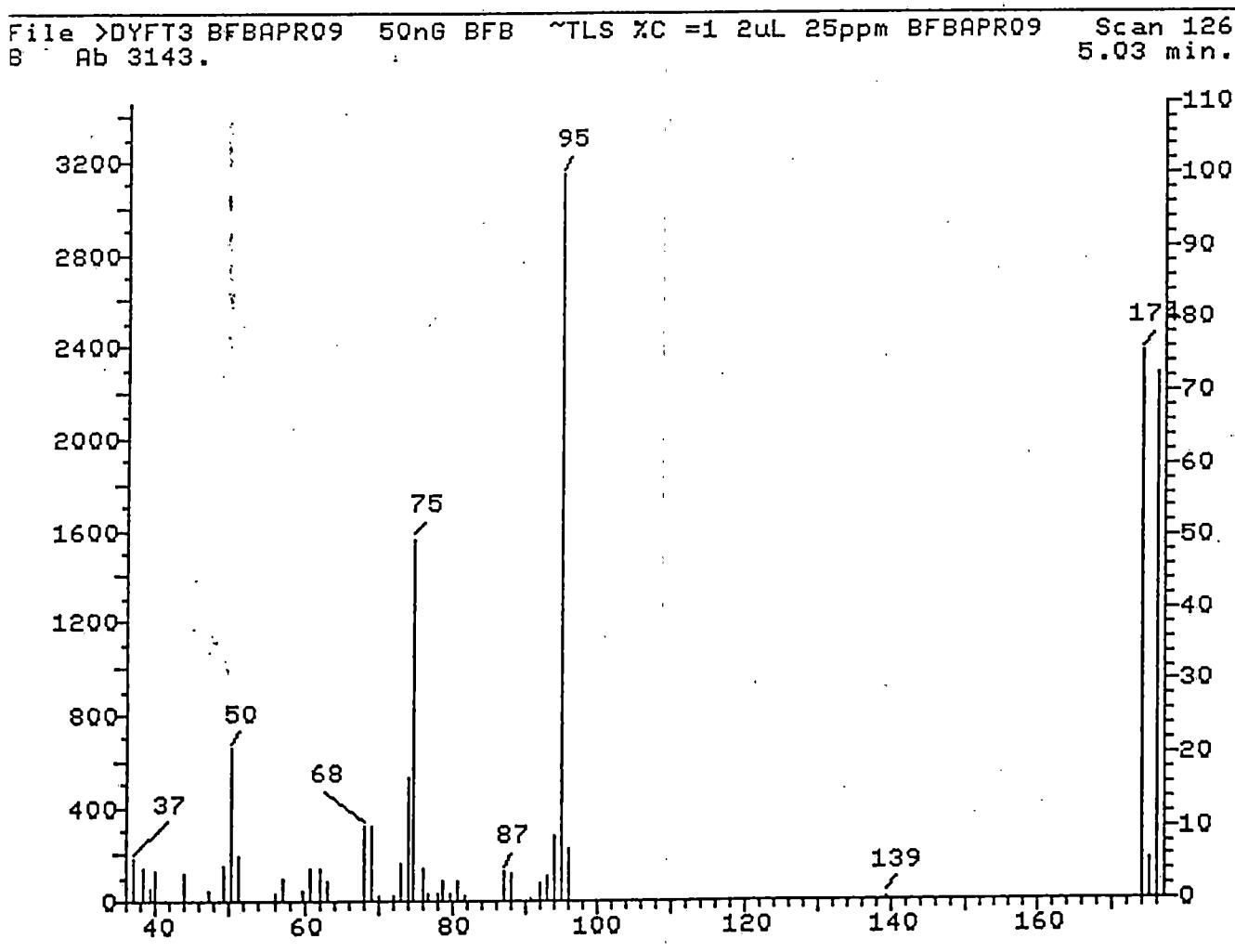
Injection Date: 05/15/97

Injection Time: 11:36

Data File: >DYFT3

Scan: 126

INSTRUMENT HP02700



ANALYSIS DATE/TIME
5/15/97 11:36
INSTRUMENT HP02700

>DYFT3 BFBAPR09 50nG BFB -TLS %C =1 2uL 25ppm BFBAPR09
126 NRM

File: >DYFT3 Scan #: 126 Retn. time: 5.03

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
35.95	1.37	51.05	6.05	70.05	.73	79.90	.95	94.05	8.94
36.95	5.79	56.10	1.15	72.05	.60	80.90	2.90	95.05	100.00
38.05	4.45	57.00	3.09	73.05	5.09	81.95	.70	96.05	7.32
39.05	1.62	59.95	1.37	74.05	17.12	86.95	4.07	139.40	.45
40.00	4.23	60.95	4.49	74.95	49.76	88.00	3.91	174.00	75.31
44.00	3.95	62.05	4.36	76.10	4.45	90.90	.51	175.00	5.50
47.05	1.43	63.05	2.64	76.90	.99	92.00	2.39	176.00	72.48
49.05	4.93	68.00	10.05	78.00	1.24	93.00	3.50	177.05	5.06
50.05	20.87	69.00	10.21	78.90	2.93				

1 48., IS THE AREA OF MASS 95

TLS MAX SCAN IS 126.00

SUBTRACTED SPECTRA ARE ONE BEFORE OR ONE AFTER PEAK START AND STOP
ENH IS AVERAGE OF MAXIMUM SCAN AND 2 SCANS ON EITHER SIDE

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.
 Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
 Instrument ID: HP02700 ✓ Calibration Date: 05/15/97 ✓ Time: 1153 ✓
 Lab File ID: >DYFS4 ✓ Init. Calib. Date(s): 05/09/97 ✓ 05/09/97
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP
 in RRF50 for SPCC(#) = 0.300 (0.10 for Bromoform) Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane	2.717	2.415	44.46	50.0	11.1
Chloromethane	# .927	.906	48.83	50.0	2.3#
Vinyl Chloride	* .912	.955	52.34	50.0	-4.7*
Bromomethane	1.225	1.178	48.09	50.0	3.8
Chloroethane	.505	.516	51.15	50.0	-2.3
Trichlorofluoromethane	2.513	2.591	51.54	50.0	-3.1
Ethyl Ether	.484	.473	48.88	50.0	2.2
Acrolein	.087	.086	496.85	500.0	.6
1,1-Dichloroethene	* .965	.980	50.76	50.0	-1.5*
Freon 113	2.319	2.402	51.78	50.0	-3.6
Acetone	.141	.152	97.43	100.0	2.6
Methyl Iodide	3.712	3.865	52.06	50.0	-4.1
Carbon Disulfide	2.798	2.803	50.10	50.0	-.2
2-Propanol	.024	.024	251.84	250.0	-.7
Allyl Chloride	.986	.866	43.91	50.0	12.2
Methylene Chloride	1.116	1.053	51.40	50.0	-2.8
t-Butyl Alcohol	.061	.059	239.38	250.0	4.2
Acrylonitrile	.142	.136	480.69	500.0	3.9
Methyl t-Butyl Ether	1.758	1.771	50.37	50.0	-.7
trans-1,2-Dichloroethene	.990	1.024	51.67	50.0	-3.3
n-Hexane	.918	.949	51.67	50.0	-3.3
1,1-Dichloroethane	# 1.973	1.976	50.08	50.0	-.2#
2-Chloro-1,3-Butadiene	1.460	1.446	49.52	50.0	1.0
cis-1,2-Dichloroethene	1.112	1.135	51.04	50.0	-2.1
Propionitrile	.055	.051	234.99	250.0	6.0
Methacrylonitrile	.204	.192	117.78	125.0	5.8
Tetrahydrofuran	.189	.175	46.40	50.0	7.2
Chloroform	* 2.663	2.577	48.38	50.0	3.2*
Cyclohexane	1.165	1.193	51.19	50.0	-2.4
1,2-Dichloroethane	1.641	1.526	46.50	50.0	7.0
Vinyl Acetate	.045	.049	55.11	50.0	-10.2
2-Butanone	.080	.075	94.01	100.0	6.0
1,1,1-Trichloroethane	.630	.640	50.78	50.0	-1.6
Carbon Tetrachloride	.611	.632	51.70	50.0	-3.4

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS

Contract: _____

Lab Code: LANCAS

Case No.: _____

SAS No.: _____

SDG No.: _____

Instrument ID: HP02700

Calibration Date: 05/15/97

Time: 1153

Lab File ID: >DYFS4

Init. Calib. Date(s): 05/09/97

05/09/97

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

Min RRF50 for SPCC(#) = 0.300 (0.10 for Bromoform) Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Isobutyl Alcohol	.004	.004	552.67	625.0	11.6 - NTC
Benzene	.681	.707	51.90	50.0	-3.8
n-Heptane	.185	.187	50.49	50.0	-1.0
n-Butanol	.003	.003	695.02	625.0	-11.2 - NTC
Trichloroethene	.433	.442	51.02	50.0	-2.0
1,2-Dichloropropane	* .354	.354	50.11	50.0	-.2*
Methyl Methacrylate	.157	.151	47.99	50.0	4.0
Dibromomethane	.479	.464	48.38	50.0	3.2
1,4-Dioxane	.002	.002	774.15	625.0	-23.9 - NTC
n-Propyl Acetate	.094	.089	47.26	50.0	5.5
Bromodichloromethane	.846	.841	49.70	50.0	.6
2-Nitropropane	.069	.064	92.55	100.0	7.4
2-Chloroethyl Vinyl Ether	.159	.153	96.56	100.0	3.4
cis-1,3-Dichloropropene	.513	.518	50.40	50.0	-.8
trans-1,3-Dichloropropene	.470	.466	49.52	50.0	1.0
1,1,2-Trichloroethane	.350	.349	49.80	50.0	.4
Dibromochloromethane	.840	.837	49.81	50.0	.4
Bromoform	# .663	.639	48.16	50.0	3.7#
trans-1,4-Dichloro-2-Butene	.119	.107	112.08	125.0	10.3
4-Methyl-2-Pentanone	.292	.276	94.52	100.0	5.5
Toluene	* 1.057	1.089	51.53	50.0	-3.1*
Ethyl Methacrylate	.445	.438	49.17	50.0	1.7
Tetrachloroethene	.606	.599	49.48	50.0	1.0
2-Hexanone	.190	.176	92.18	100.0	7.8
1,2-Dibromoethane	.855	.873	51.00	50.0	-2.0
Chlorobenzene	# .919	.957	52.02	50.0	-4.0#
1,1,1,2-Tetrachloroethane	.605	.640	52.94	50.0	-5.9
Ethylbenzene	* .345	.368	53.25	50.0	-6.5*
m+p-Xylene	.453	.482	106.50	100.0	-6.5
o-Xylene	.435	.471	54.13	50.0	-8.3
Styrene	.764	.797	52.18	50.0	-4.4
Isopropylbenzene	1.338	1.421	53.10	50.0	-6.2
1,1,2,2-Tetrachloroethane	# .715	.732	51.20	50.0	-2.4#
1,2,3-Trichloropropane	.170	.159	46.67	50.0	6.7

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____
 Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
 Instrument ID: HP02700 Calibration Date: 05/15/97 Time: 1153
 Lab File ID: >DYFS4 Init. Calib. Date(s): 05/09/97 05/09/97
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP
 Min RRF50 for SPCC(#) = 0.300 (0.10 for Bromoform) Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Pentachloroethane	.393	.495	62.97	50.0	-25.9
1,3-Dichlorobenzene	.847	.885	52.21	50.0	-4.4
1,4-Dichlorobenzene	1.052	1.055	50.15	50.0	-.3
1,2-Dichlorobenzene	.885	.864	48.77	50.0	2.5
1,2-Dibromo-3-Chloropropane	.179	.140	39.01	50.0	22.0
1,2-Dichloroethane-d4	1.443	1.393	48.27	50.0	3.5
Toluene-d8	.960	.982	51.13	50.0	-2.3
4-Bromofluorobenzene	.907	.962	53.03	50.0	-6.1

page 3 of 3

FORM VII VOA

1/87 Rev.

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS

Contract: _____

Lab Code: LANCAS Case No.: _____

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): >DYFS4

Date Analyzed: 05/15/97

Instrument ID: HP02700

Time Analyzed: 11:53

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1 (BCM) AREA #	RT	IS2 (DFB) AREA #	RT	IS3 (CBZ) AREA #	RT
12 HOUR STD	38031	8.85	128916	10.34	95880	14.45
UPPER LIMIT	76062		257832		191760	
LOWER LIMIT	19016		64458		47940	
EPA SAMPLE NO.						
01 VBLKD06✓	36860✓	8.85✓	123709✓	10.34✓	96784✓	14.45✓
02 EXP3BDL✓	35672✓	8.85✓	118979✓	10.34✓	94713✓	14.45✓
03 EXP-8✓	34479✓	8.85✓	118876✓	10.34✓	94848✓	14.45✓
04 EXEB3✓	34958✓	8.86✓	118449✓	10.35✓	94947✓	14.44✓
05						
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09						
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11						
12						
13						
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15						
16						
17						
18						
19						
20						
21						
22						

IS1 (BCM) = Bromochloromethane

UPPER LIMIT = + 100%

IS2 (DFB) = 1,4-Difluorobenzene

of internal standard area.

IS3 (CBZ) = Chlorobenzene-d5

LOWER LIMIT = - 50%

of internal standard area.

of internal standard area.

Column used to flag internal standard area values with an asterisk.

LANCASTER LABORATORIES INC.
RUNLOG FOR HEWLETT PACKARD GC/MS SYSTEM #HP02700 (HP1)

First Shift

TL's

Second Shift

RRM

Third Shift

LAR

824-B Waters

FILE	SAMPLE	LLI#	DATE	TIME	BATCH	D.F.	NOTES
>DYFT3	BFBAPR09	50nG BFB	05/15/97	11:36	_____	0.00	_____
>DYFS4	VSTD050	050 PPB CC	05/15/97	11:53	_____	1.00	_____
>DYFB1	VBLKD06	VBLKD06	05/15/97	12:54	D1321	1.00	<u>NOT LICH</u>
>DYFB2	VBLKD06	VBLKD06	05/15/97	13:44	D1321	1.00	_____
>DYF01	EXP3BDL*	2706104	05/15/97	14:34	D1321	25.00	_____
>DYF02	EXP-8	2706105	05/15/97	16:13	D1321	1.00	_____
>DYF03	EXEX3-B3*	2706106	05/15/97	17:00	D1321	1.00	_____
>DY725	29113MS	2702986	05/08/97	07:13	D1271	1.00	<u>REPROCESSED</u>
>DYF04	FBMED	2710020	05/15/97	18:14	D1341	1.00	_____
>DYF05	97B-7	2709465	05/15/97	19:14	D1341	1.00	<u>Not Used</u>
>DY725	29113MS	2702986	05/08/97	07:13	D1271	1.00	REPROCESSED!
>DYF06	97B-7	2709465	05/15/97	20:03	D1341	1.00	_____
>DYF06	97B-7	2709465	05/15/97	20:03	D1341	1.00	REPROCESSED!
>DYF07	97B-7MS	2709466	05/15/97	21:03	D1341	1.00	_____
>DYF07	97B-7MS	2709466	05/15/97	21:03	D1341	1.00	REPROCESSED!
>DYF08	97B-7MSD	2709467	05/15/97	21:45	D1341	1.00	_____
>DYF08	97B-7MSD	2709467	05/15/97	21:45	D1341	1.00	REPROCESSED!
>DYF09	JACST	2709660	05/15/97	22:54	D1341	1.00	_____
>DYF10	JACTB	2709661	05/15/97	23:55	D1341	1.00	<u>ALL-1074 NE</u>

*-AM, 5/28/97.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD98

Lab Name: LANCASTER LABS Contract: _____
 Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
 Matrix: (soil/water) WATER Lab Sample ID: VBLKD98
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DYCB1
 Level: (low/med) LOW Date Received: _____.
 Moisture: not dec. Date Analyzed: 05/12/97 ✓
 Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)		
		MDL	UG/L	Q
75-71-8-----	Dichlorodifluoromethane	2	U	
74-87-3-----	Chloromethane	3	U	
75-01-4-----	Vinyl Chloride	2	U	
74-83-9-----	Bromomethane	3	U	
75-00-3-----	Chloroethane	3	U	
75-69-4-----	Trichlorofluoromethane	2	U	
60-29-7-----	Ethyl Ether	2	U	
107-02-8-----	Acrolein	40	U	
75-35-4-----	1,1-Dichloroethene	1	U	
76-13-1-----	Freon 113	2	U	
67-64-1-----	Acetone	6	U	
74-88-4-----	Methyl Iodide	1	U	
75-15-0-----	Carbon Disulfide	3	U	
67-63-0-----	2-Propanol	50	U	
107-05-1-----	Allyl Chloride	1	U	
75-09-2-----	Methylene Chloride	2	U	
75-65-0-----	t-Butyl Alcohol	30	U	
107-13-1-----	Acrylonitrile	10	U	
1634-04-4-----	Methyl t-Butyl Ether	2	U	
156-60-5-----	trans-1,2-Dichloroethene	2	U	
110-54-3-----	n-Hexane	2	U	
75-34-3-----	1,1-Dichloroethane	2	U	
126-99-8-----	2-Chloro-1,3-Butadiene	2	U	
156-59-2-----	cis-1,2-Dichloroethene	2	U	
107-12-0-----	Propionitrile	30	U	
126-98-7-----	Methacrylonitrile	10	U	
109-99-9-----	Tetrahydrofuran	3	U	
67-66-3-----	Chloroform	1	U	
110-82-7-----	Cyclohexane	2	U	
107-06-2-----	1,2-Dichloroethane	2	U	
108-05-4-----	Vinyl Acetate	2	U	
78-93-3-----	2-Butanone	3	U	
71-55-6-----	1,1,1-Trichloroethane	1	U	
56-23-5-----	Carbon Tetrachloride	1	U	
78-83-1-----	Isobutyl Alcohol	100	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD98

Lab Name: LANCASTER LABS Contract: _____
 Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
 Matrix: (soil/water) WATER Lab Sample ID: VBLKD98
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DYCB1
 Level: (low/med) LOW Date Received: _____.
 Moisture: not dec. Date Analyzed: 05/12/97
 Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
71-43-2-----	Benzene	1	U	
142-82-5-----	n-Heptane	2	U	
71-36-3-----	n-Butanol	100	U	
79-01-6-----	Trichloroethene	1	U	
78-87-5-----	1,2-Dichloropropane	1	U	
80-62-6-----	Methyl Methacrylate	1	U	
74-95-3-----	Dibromomethane	1	U	
123-91-1-----	1,4-Dioxane	70	U	
109-60-4-----	n-Propyl Acetate	1	U	
75-27-4-----	Bromodichloromethane	1	U	
79-46-9-----	2-Nitropropane	2	U	
110-75-8-----	2-Chloroethyl Vinyl Ether	2	U	
10061-01-5-----	cis-1,3-Dichloropropene	1	U	
10061-02-6-----	trans-1,3-Dichloropropene	1	U	
79-00-5-----	1,1,2-Trichloroethane	2	U	
124-48-1-----	Dibromochloromethane	2	U	
75-25-2-----	Bromoform	1	U	
110-57-6-----	trans-1,4-Dichloro-2-Butene	15	U	
108-10-1-----	4-Methyl-2-Pentanone	5	U	
108-88-3-----	Toluene	2	U	
97-63-2-----	Ethyl Methacrylate	1	U	
127-18-4-----	Tetrachloroethene	1	U	
591-78-6-----	2-Hexanone	7	U	
106-93-4-----	1,2-Dibromoethane	1	U	
108-90-7-----	Chlorobenzene	1	U	
630-20-6-----	1,1,1,2-Tetrachloroethane	1	U	
100-41-4-----	Ethylbenzene	2	U	
1330-20-7-----	Xylene (total)	1	U	
100-42-5-----	Styrene	1	U	
98-82-8-----	Isopropylbenzene	2	U	
79-34-5-----	1,1,2,2-Tetrachloroethane	2	U	
96-18-4-----	1,2,3-Trichloropropane	1	U	
76-01-7-----	Pentachloroethane	1	U	
541-73-1-----	1,3-Dichlorobenzene	2	U	
106-46-7-----	1,4-Dichlorobenzene	2	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD98

Lab Name: LANCASTER LABS Contract: _____
 Lab Code: LANCAS Case No.: ____ SAS No.: ____ SDG No.: _____.
 Matrix: (soil/water) WATER Lab Sample ID: VBLKD98
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DYCB1
 Level: (low/med) LOW Date Received: _____.
 % Moisture: not dec. Date Analyzed: 05/12/97
 Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL	UG/L	Q
95-50-1-----	1,2-Dichlorobenzene		2	U	
96-12-8-----	1,2-Dibromo-3-Chloropropane		3	U	

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD04

Lab Name: LANCASTER LABS Contract: _____

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: VBLKD04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DYEB2

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/14/97

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
75-71-8-----	Dichlorodifluoromethane	2	U	
74-87-3-----	Chloromethane	3	U	
75-01-4-----	Vinyl Chloride	2	U	
74-83-9-----	Bromomethane	3	U	
75-00-3-----	Chloroethane	3	U	
75-69-4-----	Trichlorofluoromethane	2	U	
60-29-7-----	Ethyl Ether	2	U	
107-02-8-----	Acrolein	40	U	
75-35-4-----	1,1-Dichloroethene	1	U	
76-13-1-----	Freon 113	2	U	
67-64-1-----	Acetone	6	U	
74-88-4-----	Methyl Iodide	1	U	
75-15-0-----	Carbon Disulfide	3	U	
67-63-0-----	2-Propanol	50	U	
107-05-1-----	Allyl Chloride	1	U	
75-09-2-----	Methylene Chloride	2	U	
75-65-0-----	t-Butyl Alcohol	30	U	
107-13-1-----	Acrylonitrile	10	U	
1634-04-4-----	Methyl t-Butyl Ether	2	U	
156-60-5-----	trans-1,2-Dichloroethene	2	U	
110-54-3-----	n-Hexane	2	U	
75-34-3-----	1,1-Dichloroethane	2	U	
126-99-8-----	2-Chloro-1,3-Butadiene	2	U	
156-59-2-----	cis-1,2-Dichloroethene	2	U	
107-12-0-----	Propionitrile	30	U	
126-98-7-----	Methacrylonitrile	10	U	
109-99-9-----	Tetrahydrofuran	3	U	
67-66-3-----	Chloroform	1	U	
110-82-7-----	Cyclohexane	2	U	
107-06-2-----	1,2-Dichloroethane	2	U	
108-05-4-----	Vinyl Acetate	2	U	
78-93-3-----	2-Butanone	3	U	
71-55-6-----	1,1,1-Trichloroethane	1	U	
56-23-5-----	Carbon Tetrachloride	1	U	
78-83-1-----	Isobutyl Alcohol	100	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD04

Lab Name: LANCASTER LABS Contract: _____
 Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
 Matrix: (soil/water) WATER Lab Sample ID: VBLKD04
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DYEB2
 Level: (low/med) LOW Date Received: _____.
 % Moisture: not dec. Date Analyzed: 05/14/97
 Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL	UG/L	Q
71-43-2-----	Benzene		1		U
142-82-5-----	n-Heptane		2		U
71-36-3-----	n-Butanol	100			U
79-01-6-----	Trichloroethene		1		U
78-87-5-----	1,2-Dichloropropane		1		U
80-62-6-----	Methyl Methacrylate		1		U
74-95-3-----	Dibromomethane		1		U
123-91-1-----	1,4-Dioxane	70			U
109-60-4-----	n-Propyl Acetate		1		U
75-27-4-----	Bromodichloromethane		1		U
79-46-9-----	2-Nitropropane		2		U
110-75-8-----	2-Chloroethyl Vinyl Ether		2		U
10061-01-5-----	cis-1,3-Dichloropropene		1		U
10061-02-6-----	trans-1,3-Dichloropropene		1		U
79-00-5-----	1,1,2-Trichloroethane		2		U
124-48-1-----	Dibromochloromethane		2		U
75-25-2-----	Bromoform		1		U
110-57-6-----	trans-1,4-Dichloro-2-Butene	15			U
108-10-1-----	4-Methyl-2-Pentanone	5			U
108-88-3-----	Toluene	2			U
97-63-2-----	Ethyl Methacrylate	1			U
127-18-4-----	Tetrachloroethene	1			U
591-78-6-----	2-Hexanone	7			U
106-93-4-----	1,2-Dibromoethane	1			U
108-90-7-----	Chlorobenzene	1			U
630-20-6-----	1,1,1,2-Tetrachloroethane	1			U
100-41-4-----	Ethylbenzene	2			U
1330-20-7-----	Xylene (total)	1			U
100-42-5-----	Styrene	1			U
98-82-8-----	Isopropylbenzene	2			U
79-34-5-----	1,1,2,2-Tetrachloroethane	2			U
96-18-4-----	1,2,3-Trichloropropane	1			U
76-01-7-----	Pentachloroethane	1			U
541-73-1-----	1,3-Dichlorobenzene	2			U
106-46-7-----	1,4-Dichlorobenzene	2			U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD04

Lab Name: LANCASTER LABS Contract: _____
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: VBLKD04
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DYEB2
Level: (low/med) LOW Date Received: _____.
Moisture: not dec. Date Analyzed: 05/14/97
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL	UG/L	Q
95-50-1-----	1,2-Dichlorobenzene		2	U	
96-12-8-----	1,2-Dibromo-3-Chloropropane		3	U	

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD05

Lab Name: LANCASTER LABS Contract: _____.
 Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
 Matrix: (soil/water) WATER Lab Sample ID: VBLKD05
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DYEB3
 Level: (low/med) LOW Date Received: _____.
 % Moisture: not dec. Date Analyzed: 05/14/97
 Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
74-87-3-----	Chloromethane	3	U	
75-01-4-----	Vinyl Chloride	2	U	
74-83-9-----	Bromomethane	3	U	
75-00-3-----	Chloroethane	3	U	
107-02-8-----	Acrolein	40	U	
75-35-4-----	1,1-Dichloroethene	1	U	
75-09-2-----	Methylene Chloride	2	U	
107-13-1-----	Acrylonitrile	10	U	
156-60-5-----	trans-1,2-Dichloroethene	2	U	
75-34-3-----	1,1-Dichloroethane	2	U	
156-59-2-----	cis-1,2-Dichloroethene	2	U	
67-66-3-----	Chloroform	1	U	
107-06-2-----	1,2-Dichloroethane	2	U	
71-55-6-----	1,1,1-Trichloroethane	1	U	
56-23-5-----	Carbon Tetrachloride	1	U	
71-43-2-----	Benzene	1	U	
79-01-6-----	Trichloroethene	1	U	
78-87-5-----	1,2-Dichloropropane	1	U	
75-27-4-----	Bromodichloromethane	1	U	
110-75-8-----	2-Chloroethyl Vinyl Ether	2	U	
10061-01-5-----	cis-1,3-Dichloropropene	1	U	
10061-02-6-----	trans-1,3-Dichloropropene	1	U	
79-00-5-----	1,1,2-Trichloroethane	2	U	
124-48-1-----	Dibromochloromethane	2	U	
75-25-2-----	Bromoform	1	U	
108-88-3-----	Toluene	2	U	
127-18-4-----	Tetrachloroethene	1	U	
108-90-7-----	Chlorobenzene	1	U	
100-41-4-----	Ethylbenzene	2	U	
79-34-5-----	1,1,2,2-Tetrachloroethane	2	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD06

Lab Name: LANCASTER LABS Contract: _____.
 Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
 Matrix: (soil/water) WATER Lab Sample ID: VBLKD06
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DYFB2
 Level: (low/med) LOW Date Received: _____.
 % Moisture: not dec. Date Analyzed: 05/15/97
 Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	MDL UG/L	Q
75-71-8-----	Dichlorodifluoromethane	2	U	
74-87-3-----	Chloromethane	3	U	
75-01-4-----	Vinyl Chloride	2	U	
74-83-9-----	Bromomethane	3	U	
75-00-3-----	Chloroethane	3	U	
75-69-4-----	Trichlorofluoromethane	2	U	
60-29-7-----	Ethyl Ether	2	U	
107-02-8-----	Acrolein	40	U	
75-35-4-----	1,1-Dichloroethene	1	U	
76-13-1-----	Freon 113	2	U	
67-64-1-----	Acetone	6	U	
74-88-4-----	Methyl Iodide	1	U	
75-15-0-----	Carbon Disulfide	3	U	
67-63-0-----	2-Propanol	50	U	
107-05-1-----	Allyl Chloride	1	U	
75-09-2-----	Methylene Chloride	2	U	
75-65-0-----	t-Butyl Alcohol	30	U	
107-13-1-----	Acrylonitrile	10	U	
1634-04-4-----	Methyl t-Butyl Ether	2	U	
156-60-5-----	trans-1,2-Dichloroethene	2	U	
110-54-3-----	n-Hexane	2	U	
75-34-3-----	1,1-Dichloroethane	2	U	
126-99-8-----	2-Chloro-1,3-Butadiene	2	U	
156-59-2-----	cis-1,2-Dichloroethene	2	U	
107-12-0-----	Propionitrile	30	U	
126-98-7-----	Methacrylonitrile	10	U	
109-99-9-----	Tetrahydrofuran	3	U	
67-66-3-----	Chloroform	1	U	
110-82-7-----	Cyclohexane	2	U	
107-06-2-----	1,2-Dichloroethane	2	U	
108-05-4-----	Vinyl Acetate	2	U	
78-93-3-----	2-Butanone	3	U	
71-55-6-----	1,1,1-Trichloroethane	1	U	
56-23-5-----	Carbon Tetrachloride	1	U	
78-83-1-----	Isobutyl Alcohol	100	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD06

Lab Name: LANCASTER LABS

Contract: _____

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER

Lab Sample ID: VBLKD06

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: >DYFB2

Level: (low/med) LOW

Date Received: _____.

% Moisture: not dec. _____

Date Analyzed: 05/15/97

Column: (pack/cap) CAP

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL	UG/L	Q
71-43-2-----	Benzene		1	U	
142-82-5-----	n-Heptane		2	U	
71-36-3-----	n-Butanol	100		U	
79-01-6-----	Trichloroethene		1	U	
78-87-5-----	1,2-Dichloropropane		1	U	
80-62-6-----	Methyl Methacrylate		1	U	
74-95-3-----	Dibromomethane		1	U	
123-91-1-----	1,4-Dioxane	70		U	
109-60-4-----	n-Propyl Acetate		1	U	
75-27-4-----	Bromodichloromethane		1	U	
79-46-9-----	2-Nitropropane		2	U	
110-75-8-----	2-Chloroethyl Vinyl Ether		2	U	
10061-01-5-----	cis-1,3-Dichloropropene		1	U	
10061-02-6-----	trans-1,3-Dichloropropene		1	U	
79-00-5-----	1,1,2-Trichloroethane		2	U	
124-48-1-----	Dibromochloromethane		2	U	
75-25-2-----	Bromoform		1	U	
110-57-6-----	trans-1,4-Dichloro-2-Butene	15		U	
108-10-1-----	4-Methyl-2-Pentanone	5		U	
108-88-3-----	Toluene		2	U	
97-63-2-----	Ethyl Methacrylate		1	U	
127-18-4-----	Tetrachloroethene		1	U	
591-78-6-----	2-Hexanone	7		U	
106-93-4-----	1,2-Dibromoethane		1	U	
108-90-7-----	Chlorobenzene		1	U	
630-20-6-----	1,1,1,2-Tetrachloroethane		1	U	
100-41-4-----	Ethylbenzene		2	U	
1330-20-7-----	Xylene (total)		1	U	
100-42-5-----	Styrene		1	U	
98-82-8-----	Isopropylbenzene		2	U	
79-34-5-----	1,1,2,2-Tetrachloroethane		2	U	
96-18-4-----	1,2,3-Trichloropropane		1	U	
76-01-7-----	Pentachloroethane		1	U	
541-73-1-----	1,3-Dichlorobenzene		2	U	
106-46-7-----	1,4-Dichlorobenzene		2	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO..

VBLKD06

Lab Name: LANCASTER LABS

Contract: _____

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER

Lab Sample ID: VBLKD06

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: >DYFB2

Level: (low/med) LOW

Date Received: _____.

% Moisture: not dec. _____

Date Analyzed: 05/15/97

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) MDL UG/L

Q

CAS NO.	COMPOUND			
95-50-1-----	1,2-Dichlorobenzene		2	U
96-12-8-----	1,2-Dibromo-3-Chloropropane		3	U

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SECTION 4

LABORATORY CASE NARRATIVES AND PROJECT CHAIN-OF-CUSTODY RECORDS

Where quality is a science.

CLIENT: DERS/ DUPONT
SDG: DPE01

LANCASTER LABORATORIES
VOLATILES by GC/MS

LL NUMBERS:	SAMPLE CODE:	MATRIX		COMMENTS
		SOIL	WATER	
2706088	EXP1A		X	
2706089	EXP1B		X	
2706090	EXP61		X	
2706090	EXP61DL		X	2.5X DILUTION
2706091	EXP62		X	
2706091	EXP62DL		X	5X DILUTION
2706092	EXP-7		X	
2706093	EXP10		X	
2706094	EXP11		X	
2706095	EXTB1		X	CLIENT BLANK
2706096	EXEB1		X	CLIENT BLANK
2706097	EXP2A		X	
2706097	EXP2ADL		X	2.5X DILUTION
2706098	EXP2B		X	5X DILUTION
2706098	EXP2BDL		X	40X DILUTION
2706099	EXP-4		X	UNSPIKED
2706099	EXP-4MS		X	MATRIX SPIKE
2606099	EXP-4MSD		X	MATRIX SPIKE DUP
2706100	EXP-5		X	
2706101	EXP-9		X	
2706102	EXEB2		X	CLIENT BLANK
2706103	EXP3A		X	
2706104	EXP3B		X	
2706104	EXP3BDL		X	25X DILUTION
2706105	EXP-8		X	
2706106	EXEB3		X	CLIENT BLANK

LABORATORY SUBMITTED QC:

VBLKD98	VBLKD98	X	METHOD BLANK
VBLKD04	VBLKD04	X	METHOD BLANK
VBLKD05	VBLKD05	X	METHOD BLANK
VBLKD06	VBLKD06	X	METHOD BLANK

SAMPLE PREPARATION:

No sample preparation was necessary for the VOA fraction.

ANALYSIS:

The method used for analysis was EPA SW846 Method 8240B.

The quantitation limits for sample EXP2B were raised because sample dilution was necessary to bring target compounds into the calibration range of the system.

No other problems were encountered during the analysis of these samples.

Where quality is a science.

QUALITY CONTROL and NONCONFORMANCE SUMMARY:

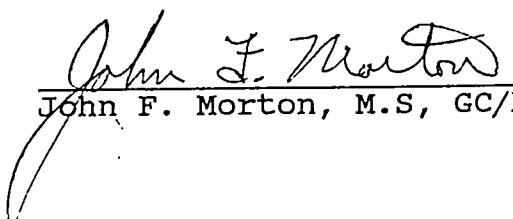
Only client requested compounds are addressed in this narrative.

All QC was within specifications.

DATA INTERPRETATION:

No further interpretation is necessary for the data submitted.

Case Narrative Reviewed and Approved by:


John F. Morton Date 5/29/87
John F. Morton, M.S., GC/MS Volatiles



A division of Thermo Analytical Inc.

Where quality is a science.

Sample Reference List for SDG # DPE01
with a Package Type of I

Lab Sample Number	Sample Code	Client Sample Description
2706088	EXP1A	EXP-MW-1A Water Sample
2706089	EXP1B	EXP-MW-1B Water Sample
2706090	EXP61	EXP-MW-6-1 Water Sample
2706091	EXP62	EXP-MW-6-2 Water Sample
2706092	EXP-7	EXP-MW-7 Water Sample
2706093	EXP10	EXP-MW-10 Water Sample
2706094	EXP11	EXP-MW-11 Water Sample
2706095	EXTB1	EXP-TBLK1 Trip Blank Water Sample
2706096	EXEB1	EXP-EBLK1 Equipment Blank Water Sample
2706097	EXP2A	EXP-MW-2A Water Sample
2706098	EXP2B	EXP-MW-2B Water Sample
2706099	EXP-4	EXP-MW-4 Unspiked Water Sample
2706100	EXP-5	EXP-MW-5 Water Sample
2706101	EXP-9	EXP-MW-9 Water Sample
2706102	EXEB2	EXP-EQBLK2 Equipment Blank Water Sample
2706103	EXP3A	EXP-MW-3A Water Sample
2706104	EXP3B	EXP-MW-3B Water Sample
2706105	EXP-8	EXP-MW-8 Water Sample
2706106	EXEB3	EXP-EQBLK3 Equipment Blank Water Sample



DERS

No. 3149

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425

7032

2706088-106

1	1097337	7112-02-05
Group#	Order ID	Project Number

DuPont Experimental Station Facility Name	000-000-0000 Telephone Number	Lancaster Labs Courier Transporter Name	Telephone Number
Wilmington DE Facility Address		Transporter Address	
Mr. Ron Wesley Facility Supervisor		Lab Drop Off Method of Shipping	
GW Monitoring 1997 Process Producing Sample		Special Shipping Instructions	
Employee(s) Supplying <u>JK</u> <u>William</u>	8240 = PPL Volatiles		
Other Employees(s) Handling			

Sample Description	Date	Time	Sample Type	Volume (ml)	Preservative	Quantity	Bottle Type	8240
EXP-MW-1A	5-7-97	1130	WW	40	HCl	3	G	X
EXP-MW-1B	5-7-97	1125	WW	40	HCl	3	G	X
EXP-MW-6-1	5-5-97	1300	WW	40	HCl	3	G	X
EXP-MW-6-2	5-5-97	1300	WW	40	HCl	3	G	X
EXP-MW-7	5-7-97	1335	WW	40	HCl	3	G	X
EXP-MW-10	5-7-97	1330	WW	40	HCl	3	G	X
EXP-MW-11	5-5-97	853	WW	40	HCl	3	G	X
EXP-MW-TBLK1	JK	5-7-97	0830	WW	40	HCl	3	G
EXP-MW-EQBLK1	5-5-97	906	WW	40	HCl	3	G	X

<u>JK</u> <u>S.L. Muckle</u>	Date/Time 5-2-97 0845	<u>JK</u>	Date/Time 5/5/97 0500	Condition of Samples Upon arrival at Final Destination
<u>JK</u>	Date/Time 5-7-97 1600	Received by	Date/Time	In
Relinquished by	Date/Time	Received by	Date/Time	Signature <u>JK</u> Date 5/7/97
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	210
Relinquished by	Date/Time	Received by <u>MZ</u>	Date/Time 5/7/97	Signature <u>JK</u> Date 5/7/97

DERS

No. 3150

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425

7032

2706088-106

2	Group#	1097337	7112-02-05
		Order ID	Project Number

DuPont Experimental Station Facility Name	000-000-0000 Telephone Number	Lancaster Labs Courier Transporter Name	Telephone Number
Wilmington DE Facility Address		Transporter Address	
Mr. Ron Wesley Facility Supervisor		Lab Drop Off Method of Shipping	
GW Monitoring 1997 Process Producing Sample		Special Shipping Instructions	
Employee(s) Sampling	11/11/97 Lillian	8240 = PPL Volatiles	
Other Employees(s) Handling			

Sample Description	Date	Time	Sample Type	Volume (ml)	Preservative	Quantity	Bottle Type	8240
EXP-MW-2A	5-7-97	1115	WW	40	HCl	3	G	X
EXP-MW-2B	5-7-97	1210	WW	40	HCl	3	G	X
EXP-MW-4	5-6-97	1550	WW	40	HCl	3	G	X
EXP-MW-4-MS	5-6-97	1550	WW	40	HCl	3	G	X
EXP-MW-4-MSD	5-6-97	1550	WW	40	HCl	3	G	X
EXP-MW-5	5-6-97	1100	WW	40	HCl	3	G	X
EXP-MW-9	5-6-97	0900	WW	40	HCl	3	G	X
EXP-MW-TBLK2	5-2-97	0830	WW	40	HCl	3	G	X
EXP-MW-EQBLK2	5-6-97	0925	WW	40	HCl	3	G	X

Bottles Relinquished by S-L-Munkle	Date/Time 5-2-97 0920	Bottles Received by J. Munkle	Date/Time 5/6/97 730	Condition of Samples Upon arrival at Final Destination
Relinquished by	Date/Time 5-7-97 1600	Received by	Date/Time	FRT
Relinquished by	Date/Time	Received by	Date/Time	Signature Date 5/7/97
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	26
Relinquished by	Date/Time	Received by MZ	Date/Time 5/7/97 (900)	Signature MZ Date 5/7/97

DERS

No. 3151

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425

7032

3

1097337

7112-02-05

Group#

Project Number

DuPont Experimental Station Facility Name	000-000-0000 Telephone Number	Lancaster Labs Courier Transporter Name	Telephone Number
Wilmington DE Facility Address		Transporter Address	
Mr. Ron Wesley Facility Supervisor		Lab Drop Off Method of Shipping	
GW Monitoring 1997 Process Producing Sample		Special Shipping Instructions	
Employee(s) Sampling	8240 = PPL Volatiles		
Other Employee(s) Handling			

Sample Description	Date	Time	Sample Type	Volume (ml)	Preservative	Quantity	Bottle Type	8240
EXP-MW-3A	5-7-97	0955	WW	40	HCl	3	G	X
EXP-MW-3B	5-7-97	1059	WW	40	HCl	3	G	X
EXP-MW-8	5-7-97	0850	WW	40	HCl	3	G	X
EXP-MW-TBLK3	5-7-97	0840	WW	40	HCl	3	G	X
EXP-MW-EQBLK3	5-7-97	1115	WW	40	HCl	3	G	X

4/5/97

Bottles Relinquished by <u>R.W. Winkle</u>	Date/Time 5-7-97 0940	Bottles Received by <u>J. Miller</u>	Date/Time 5-7-97 1115	Condition of Samples upon arrival at Final Destination
Relinquished by <u>J. Miller</u>	Date/Time 5-7-97 1600	Received by	Date/Time	<u>DR</u>
Relinquished by	Date/Time	Received by	Date/Time	<u>WZ</u>
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	<u>20</u>
Relinquished by	Date/Time	Received by <u>WZ</u>	Date/Time 5-7-97 1900	Signature <u>WC</u>
				Date 5-7-97

Sample Administration
Receipt Documentation Log

Client/Project: Perco

COC Seal: Present Not Present on cooler

Date of Receipt: 5-7-97

Broken Intact

Time of Receipt: 1900

Package: Chilled Not Chilled

Source Code: CO

Unpacker Emp. No.: 265

Temperature of Samples

#1	#2
Thermometer ID: <u>1005</u>	Thermometer ID: _____
Corrected Temp.: <u>2.0</u>	Corrected Temp.: _____
Temp. Bottle / Surface Temp. <input checked="" type="checkbox"/> Wet Ice / Dry Ice / Ice Packs Ice Present? <input checked="" type="checkbox"/> Y / N	Temp. Bottle / Surface Temp. Wet Ice / Dry Ice / Ice Packs Ice Present? Y / N
#3	#4
Thermometer ID: _____	Thermometer ID: _____
Corrected Temp.: _____	Corrected Temp.: _____
Temp. Bottle / Surface Temp. Wet Ice / Dry Ice / Ice Packs Ice Present? Y / N	Temp. Bottle / Surface Temp. Wet Ice / Dry Ice / Ice Packs Ice Present? Y / N

Paperwork Discrepancy/Unpacking Problems: _____

Sample Administration Chain of Custody

Name	Date	Time	Reason for Transfer
MZ	5/7/97	2100	Unpacking
Caym	5/7/97	2130	Place in Storage or Entry
R. Lutz	5/8/97	0030	Remove from Storage Entry
			Place in Storage or Entry
			Entry



DuPont Facilities Services

cc: E. A. Rittberg, DNREC

July 29, 1997

Ms. Donna McCartney (3HW61)
U.S. EPA, Region III
841 Chestnut St. Bldg.
Philadelphia, PA 19107
(4 copies)

Re: RCRA 3013 SAMR Order on Consent
DuPont Experimental Station, Wilmington, DE
EPA Docket #3-016-AM

Subject: SAMR - Data Validation Report

Dear Ms. McCartney:

Enclosed please find the Sampling, Analysis, Monitoring, and Reporting (SAMR) Plan Quality Assurance Review of the samples collected for the DuPont Experimental Station SDGDPE01, dated July 3, 1997.

Please call Rick Drazich at (302) 695-9303 if you have any questions.

Sincerely,

Rick B. Drazich

Rick B. Drazich
Project Coordinator

RBD:bas

Enclosure